THE DEVELOPMENT OF THE TASMANIAN WOOD INDUSTRIES : A RADICAL ANALYSIS

by

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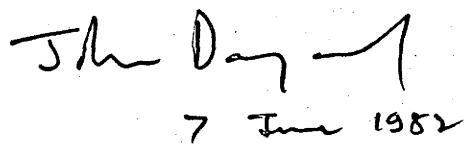
DECLARATION

This thesis is based upon original research conducted by the author, except where acknowledged.



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ABSTRACT

Modernisation theories of development have been widely criticised for their failure to account for continuing under-development on a world scale. Alternative radical theories have been used to analyse the development of many regions and economic sectors, but not for the Australian wood industries. The thesis of this work is that radical theories provide rational and effectual bases for analysing the development of the wood industries in Tasmania.

Three radical theories are employed. Firstly, world-systems theory is used to provide an overview of the changes operating at a world scale that affect regional development. It explains such changes in terms of stages, each characterised by salient features and by shifts in hegemony. Secondly, a recent theory of structural change is used that enables regional and sectoral development to be examined in detail. This provides a level of abstraction and analysis between the 'mode of production' as defined by Karl Marx, and the specific concrete society being studied. Thirdly, because the state is particularly important in wood industries, a Marxist theory of the state is used.

The history of wood production, from pit-sawing by convicts in 1804 to the export of woodchips in 1980, is narrated in the main body of the work. The salient features of and changes in the capitalist world-system are described for each of its stages, and their effects traced through its successive levels: that of world capitalism, Britain, Australia, and Tasmania. Within the Tasmanian wood industries, development is analysed in terms of changes to twelve materially and socially different structures of production, and in terms of the state's construction of each of forestry's major industrial functions: production, reproduction, and integration.

The findings above are then reviewed. World-systems theory reveals that many determinants of Tasmanian development operated on a world scale, but that many of the salient global changes affected the

Tasmanian wood industries only indirectly or at a much later date. The theory of structural change adopted here is found to be especially powerful because of the laggard pattern of the development in this particular case. On many occasions the actions of the state can be explained by simple models, but on others more complex ones are required. The state's implementation of forestry's various functions can be explained in terms of the needs of the main structures of wood production.

Finally, a brief comparison is made between the issues that are raised for the future by an analysis like this one, based on radical theory, and those based on modernisation theory. It is shown that the differences between the two approaches are so substantial that they would lead to quite different development strategies.

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PREFACE

This is an historical investigation undertaken to meet what I believe to be a most pressing need: the adoption of a fresh framework for the development theory within which to construct policies for Australia's contemporary forestry and wood industries. I am persuaded that modernisation theory, which has provided the main basis for policy during the third quarter of the twentieth century, is too limited to provide that basis for the future. The intent of this work is to demonstrate that an alternative framework, constructed from radical theory, provides a superior rationale for understanding past development and for constructing policies for future progress.

Two quite general features provide the setting for this work. Firstly, the paradoxes, contradictions and crises within and between capitalist countries deepened during the third quarter of the twentieth century. Politically this resulted in calls for new policies (such as that for a New International Economic Order) and intellectually it resulted in a resurgence of radical scholarship (that now competes with liberal scholarship in a very wide range of fields, such as development studies, sociology, political science, education, criminology and so forth). Secondly, the prevailing paradigm of Western forestry conforms closely to liberal beliefs, as I have shown elsewhere for Australia, and at the time of writing (1982) this sector has hardly been considered by studies in the radical tradition.[1] Yet the contradictions and failures of modernisation policies are felt as strongly here as elsewhere. Consider for instance the conclusions of the distinguished forest economist, Jack Westoby, who in 1978, looking back at the modernisation policies of industrial development that he had so ardently advocated in the 1960's as an attack on underdevelopment, could only declare '... that very, very few of the forest industries that have been established in underdeveloped countries...have in any way promoted socio-economic development'.[2] If, as Frank has written in the very first sentence of his historical studies of development

in Chile and Brazil, '... it is capitalism, both world and national that produced underdevelopment in the past, and which still generates underdevelopment in the present ...', then how are the prevailing Australian policies of encouraging capitalist industries through public expenditure on activities such as forestry to be understood ?

In this study, the development of the Tasmanian wood industries and the forestry practices that support them is linked with unfolding structural changes to capitalism as a world-historic process. This approach differs from studies conducted within the framework of modernisation theory which often take a nation or region as a discrete unit for analysis. An historical investigation is made in order to detect the patterns and processes of development. Again, this contrasts with many development studies conducted under modernisation theory which confine themselves to one point in time. This study is still confined to one region however, in order to permit a detailed examination to be made of events at the level of organisations - firms, unions, government departments and so forth - which are obvious actors in the development process. Tasmania was selected because it is a clearly defined region in which the wood industries are well developed and economically important. The European invasion in 1803 is taken as a starting point, partly because the expansion of industrial capitalism was particularly rapid from the beginning of the nineteenth century, partly because it permitted two systems of manual production to be included thus increasing the number of structural changes that could be studied, and partly because it was a dramatic and clear-cut conjuncture.

With regard to the disciplines engaged in this study, three points should be made. Firstly, the study is essentially one of development. The wood sector was chosen because of personal experience and because its expansion is often proposed in under-developed regions. Secondly, broad notions of development encompass various disciplines; thus we have development economics, development sociology, development geography and so forth. The position taken here is that of Wallerstein who argues for the essential unity of the social sciences and history.[4] That is to say, the student of

development has to be concerned with a vast area that can not be logically disciplined within tidy partitions. I have drawn from the work of sociologists, political scientists, political economists, economists, foresters and geographers as well as from work which spans such divisions. Thirdly, whereas investigations in the natural sciences, such as many forestry studies, can be conducted within an almost universally accepted paradigm of shared definitions, beliefs and practices, investigations in the social sciences can not. Although certain perspectives may dominate, multiple and conflicting paradigms persist that reflect different ideologies, political positions, assumptions about the nature of humanity and so forth - matters which can not be 'settled'. This last point is elementary to the conduct of social science inquiries, particularly within the radical tradition, yet is all too often ignored in studies concerned with management, economics, or development in the forestry and wood industries sector. A small glossary of forestry, wood industry, and social science terms has been included to help bridge the disciplinary gaps.

The broad view taken in this study has meant that a number of aspects of the topic which the reader might expect to find herein are not included. Three will be mentioned, all of which are worthy of detailed study but none of which, I believe, can be sensibly considered until a sound framework is established. Firstly, and perhaps most surprisingly for a study conducted within a university Department of Forestry, there is no mention of biological or environmental aspects. This is not because these are considered unimportant, but because they are seen more as constraints and effects than as determinants of development. Secondly, and again surprisingly in an historical treatment, few individuals are named. Again this is not because individuals are considered unimportant, but because development is seen as rooted in material and social conditions rather than in personalities. Lastly, the work is qualitative rather than quantitative for it is held that processes must be defined and conceptual models built, as in this study, before their coefficients may be estimated usefully.

Finally, the scope and limitations of the source materials used need to be born in mind continuously for they are grossly biased towards official sources and public companies, while small businesses are almost totally unrepresented. More seriously, the experiences of most of the people who have worked in the mills and forests have been scarcely touched, and although archival records of the timber worker's unions have been invaluable, I am conscious of the weight of unrecorded, forgotten and sometimes illiterate dead whose struggles have been washed out of the pale reports and bare statistics that remain.

Tasmania has frequently been mentioned in Australian histories as an exception, but far less frequently considered in detail. No general history of the State up to the present has been published. The single book on the economic history of the island covers only the period to 1850, while Butlin's compendium of Australian economic statistics, 1861-1938/39, an invaluable source for the mainland States, virtually ignores Tasmania. Similarly, no authoritative history of the forest industries in Australia has been published. A few unpublished theses and journal articles, together with part of a manuscript of a forthcoming history of the public administration of Australian forests being prepared by Dr L.T. Carron, were the main secondary sources for this sector.

The history of this sector was constructed largely from primary sources. The work involved was inescapable yet absorbed a disproportionately large share of the study. I examined, as far as I can ascertain, all the legislation, and every extant parliamentary paper and published report dealing with Tasmanian forestry and wood industries. Fortunately, the State Archives of Tasmania hold an extensive collection of official files with relevant material dating from 1826. From those files available for research, the records of the Colonial Secretary's Office, the Lands and Survey Department, the Forestry Department and later Commission, and some other series were consulted. The minute books and records of the Australian Timber Workers Union - No.6 Tasmanian Branch and its predecessor were examined in the Archives of Business and Labour of the Australian

National University, and similar material for the Tasmanian Timber Association and its predecessor were examined in the offices of the Association in Launceston.

Pariamentary debates, normally a fruitful source, were not recorded officially until a Tasmanian Hansard service was established in 1979. Newspaper reports were not searched systematically as the task was too great for the long period covered in this study. However many newspaper sources were located from clippings files held in the State Archives and branches of the State Library of Tasmania, and from some limited searches conducted for specific events.

Except for quotations and certain notes, all quantities recorded in imperial units have been converted to their metric equivalents, and money values have been shown in units of Australian dollars. A table of conversion factors is provided.

ABBREVIATIONS

ALP	Australian Labor Party
AMP	Australian Mutual Provident Society Ltd
ANM	Australian Newsprint Mills Ltd
APM	Australian Paper Manufacturers Ltd
APMEU	Australian Paper Mills Employees Union
APPM	Associated Pulp and Paper Mills Ltd
ATWU-T	Australian Timber Workers Union - No. 6 Tasmanian Branch
AWU	Australian Workers Union
AZ	Amalgamated Zinc (de Bavay's) Ltd
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EZ	Electrolytic Zinc Company of Australasia Ltd
OPEC	Organisation of Petroleum Exporting Nations
PIEUA	Printing Industry Employees Union of Australia
PKIU	Printing and Kindred Industries Union
PPWFA	Pulp and Paper Workers Federation of Australia
TPFH	Tasmanian Pulp and Forest Holdings Ltd
TTA	Tasmanian Timber Association
TTO	Tasmanian Timber Organisation
US	United States of America

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Chapter 1

DEVELOPMENT THEORIES AND POLICIES

People, in their struggle to improve the material and social conditions of existence, commonly construct development policies and plans to guide their actions. They may attempt to do so rationally by searching the historical record for the processes at work, examining the patterns in their current situation, and evaluating the likely outcomes of alternative endeavours. That is, actions can be planned rationally from analyses of the past and forecasts of the future; from a fusion of experience with intent. But people may also simply follow outdated guides or accept prevailing ideologies unquestioningly. Either way the development policies adopted differ widely according to the analyses conducted, the conceptions of desirable futures or the prevailing ideologies on which they are based, and the resulting strategies can range from evolution to revolution.

Popularly in Australia, development means expansion, economic growth, industrialisation and modernisation, and from Wentworth to Whitlam has been equated with capitalist investment.[1] This meaning of development has been so firmly held to be an unassailable good as to constitute an ideology - 'developmentalism' - and one that has often camouflaged the equation, legitimated state policies of industrial 'encouragement', and justified their costs. In no State is this more apparent than in Tasmania where, since the early nineteenth century, development has been pursued by state policies of land grants, hydro-industrialisation, concession and encouragement to industries, such as the wood industries. Yet popular development policies have not always worked; Australian poverty exists with Australian prosperity and Tasmanian development has now become the 'Tasmanian Problem' of regional decline. At times the struggle for development requires fresh theoretical studies that make new assumptions, reappraise experience, find different patterns, and suggest new guides.

This work takes a fresh theoretical approach to the study of the wood industries and forestry in Australia. It is held that the modernisation theories which have prevailed as the basis for analysis and policy in this sector have been found elsewhere to have numerous failings in theory and in practice. The thesis of this work is that radical theories provide a rational and effectual base from which to analyse the historical development of the sector, and hence to plan its future.

The thesis is argued in three parts. Firstly, theories of progress or development are discussed and three radical theories elaborated. Secondly, a case study is made of the wood industries in Tasmania over the period 1803-1980, using the radical theories described in the first chapter. This lengthy study occupies the bulk of the work and is divided approximately chronologically between Chapters 2 and 8. In each of the chapters, the development of the different structures of production, the links between them and their relationships with the state are described. Particular attention is given to the construction of forestry as a state activity. Finally, the whole case study is reviewed to see how well it fits the radical theories, and what is particular to the case and sector. The strengths and weaknesses of modernisation theory are briefly revisited and it is shown that radical theories do provide a rational alternative; development *can* be seen in a different way.

In this chapter we first review the idea of progress or development. This is done at some length for the complexity of the idea, particularly as it envisages structural change, goes far beyond the popular conception. Secondly, contemporary theories of development are categorised into two simplified camps - modernisation and radical. A brief account is given of the assumptions and criticisms of modernisation theories. The content and assumptions of the radical approach are then established by considering Marx's model of social structure and change and some criticisms of it. This is also done at some length as the approach is uncommon in studies of this sector. Three radical theories to be employed in the case study are then elaborated. These are:

- the world-systems theory, that provides a world-historic perspective within which to see the overall course of Tasmanian development;
- a recent theory of structural change within capitalism that provides an additional level of abstraction and analysis to those normally used; and
- a Marxist theory of the capitalist state, required because of the great importance of the state in this sector.

Lastly, the particular nature and functions of forestry are established.

PROGRESS AND DEVELOPMENT

The idea of progress in the modern secular sense only became a significant concern of those whom we now call social scientists, as the pace of change in Europe began to quicken in the late eighteenth century. The clear evidence that rational enquiry could yield a cumulative advance of knowledge, and particularly of science, created an optimistic outlook. Incessant inventions and the spread of manufacturing showed that radical changes to material production were possible. New social relations emerged in the growing cities that differed markedly from traditional village life. A new world was seen to throw off the old as the United States asserted her independence (1776), and the French suddenly created a new political order (1789).

Over the next sixty years, the expansion of industrial capitalism in Europe and the emergence of bourgeois liberal societies has been described by Hobsbawm '...as the greatest transformation in human history since remote times...a revolution which transformed and continues to transform the entire world ...'.[2] Intense theoretical studies were essential to understand this changing world and led to the founding of both political economy and modern sociology.[3]

The scientific and technological triumphs of the nineteenth

progress put forward in the eighteenth, so that the idea that the tumult of social changes constituted a cumulative advance, or progress, became part of the general outlook in the western world.[4] The idea was accompanied by doubts and refutations but these did not capture the general outlook until after 1914. The First World War and the depressions of the 1920's and 1930's transformed the common outlook to one of profound pessimism. Yet the idea of progress, renamed development, enjoyed a remarkable revival during the boom of rising Western prosperity and production in the 1950's and 1960's. The United Nations declared the 1960's to be the 'Decade of Development' during which poverty, hunger and disease in 'underdeveloped' countries would be attacked with enlightened policies and projects. The revival was accompanied by cogent criticism from environmentalists, neo-Malthusians and millions who saw progress achieved elsewhere at their expense. With the recession of the 1970's, criticisms heightened and there was a resurgence of theoretical enquiry into the nature and process of development.

We can consider the content of the idea of progress or development further by examining its ebb and flow under the headings of optimism, rationality and endeavour.[5]

Optimism

The idea of progress rests on an optimistic interpretation that history contains a trend to improvement and the trend depends not on Providence or chance but on human endeavour.[6] The trend to improvement is held, with varying degrees of acceptance, to extend over knowledge, the material conditions of life, the social and political organisation of society, morals and even the human constitution.

The optimism with which progress was espoused in the eighteenth century rested on the new advances of science, and their application in medicine, engineering, transport and so forth. Condorcet (1743-1794) believed that:

> ... we shall find in the experience of the past, in the observation of the progress that the sciences and civilisation have made thus far, in the analysis of the advance of the human mind and the development of its faculties, the strongest motives for believing that nature has set no limits to our hopes.[7]

This belief in unlimited development - of the perfectibility of humankind - was totally rejected in 1798 by Thomas Malthus with his famous analysis of the limits placed on a geometrically expanding population by the arithmentic rate at which he thought natural production could be increased. Malthus concluded that:

> ... no possible form of society could prevent the almost constant action of misery, upon a great part of mankind, if in a state of inequality, and upon all, if all were equal.[8]

The optimistic view prevailed in the nineteenth and early twentieth centuries for the Malthusian prediction was clearly not born out by European experience. Industrial production grew by leaps and bounds as did food production in the new lands of North America and Australia, while the birth rate in most industrialised countries declined as prosperity increased.

The debate revived during the 1960's and 1970's because the population on a world scale was increasing at an almost Malthusian rate, the finite character of many of the natural mineral and energy resources became better understood, and it became abundantly clear too that misery *did* act constantly on a substantial part, perhaps one-third, of mankind in spite of progress overall. Several studies attempted to match forecasts of population against those for the limits of food, energy and material production, and forecast catastrophes as the limits were reached.[9] Echoing earlier optimism, others retorted that human scientific ability and technological ingenuity held the potential to avert them.[10] Counterposed to both, Galtung argued that the whole debate was misdirected because the urgent world problem was not to ensure that material consumption could be maintained in rich advanced countries in the future, but to distribute it more evenly in the present.[11]

Condorcet's optimism about the beneficial contribution of science and technology to the human condition has been severely modified by malignant applications and effects. Hiroshima and global

pollution are too well known to need further elaboration. Few would now share his belief in moral progress. Examples such as international humanitarian aid or welfare policies are matched by those of concentration camps or apartheid. Yet moral claims do persist in political debate within and between states and have been held to exert some influence on development and other policies.[12] Similarly, evidence of improvement in the human constitution is contradictory. Better nurture has certainly increased life expectancy and even the height of successive generations in many countries, yet starvation and disease shorten and stunt the lives of millions.

Overall, we can perhaps conclude that the optimism of the idea of progress abides in human potential yet is constrained by the physical world and often thwarted by people's own constructions.

Rationality

The idea of progress as an historic trend toward improvement contains not only an optimistic but also a rational and secular assumption that discoverable *patterns* exist in human history.[13] From the middle of the eighteenth century, the need to understand a changing world was met rationally. Principles of order and unity were sought along new lines that led to sociology, the history of civilisations and the philosophy of history.[14] By the end of the century, the idea of progress was being analysed in three distinct streams of thought - political economy in Britain, radical political theory in France and idealist philosophy in Germany[15]

The search was divided between the analysis of societies at one time (*social statics* in Comte's term) and the analysis of change (*social dynamics*).[16] Two simplifying and generalizing concepts were adopted, each of which created a number of difficulties. The first was that of the social system whose parts could only be understood in terms of the whole. This was an idea propounded strongly by Hegel and it recurs, almost as a defining characteristic, through the work of the classical founders of sociology from Comte on.[17] Although it is often necessary to consider structures or functions individually,

yet the sociological perspective maintains that such analyses are partial. Comte, for example, specifically rejected the autonomy of the economic.[18] The concept of the social whole is difficult to maintain academically against disciplinary fragmentation however, and the boundaries of a society are not coincident for all its aspects. Tasmania, for example, is unique geographically, legally, and politically, yet it is also part of the Australian nation, the English-speaking world, and is integrated through trade and investment into the world-wide capitalist system.

The second concept was one of idealised stages through which the progress of societies could ostensibly be described.[19] Stages were conceived as consecutive social states, so that the task of Comte's social *dynamics* was to discover laws governing the succession from one stage to the next.[20] For example, Marx recognised four stages in Western history from primitive communal hordes to the present stage of capitalism, which he envisaged would evolve through a transitionary stage of a socialist society to an ultimately classless communist one.[21] This concept generated two substantial difficulties. First, the notion of a unilinear succession has been found to be wrong as some nations have simply skipped stages, passing straight from primitive to industrial for example. Secondly, whereas *each* nation was expected to progress, it has become clear that the progress of some has been inhibited or reversed by others in a situation that Frank has termed the 'development of underdevelopment'.[22]

The idea of progress assumes not only that rational enquiry can detect development processes but that they may continue. Whereas the concept of progress through successive stages, each *structurally* different from the last, was virtually unanimously accepted for historical studies (though with great differences in emphasis and causal explanation), its application to the future was not. The dividing issue was whether progress stops with capitalism. Pollard traces the origins of this divisive issue to the separation between political economy and economics that occurred in the nineteenth century.

In Britain, the classical political economists had a historical component to all their work. For example, Adam Smith devoted one-fifth of *The Wealth of Nations*, 1776, to analysing the economic policies of earlier stages. His work attacked the mercantilist and aristocratic institutions then current by arguing that the increased division of labour and deregulation of trade required for the emerging capitalist manufacturing order would be of advantage overall. He advocated changing the social order to a new stage that would provide *continuous* progress in economic matters[23] The economists that followed Smith did not take his historic vision and claimed for their laws well nigh timeless applications. When the old order had been finally vanquished:

> Around 1870, political economy was transformed into marginalist economics, and with it a key social science became a mathematics, irrefutable as long as it was internally consistent, but utterly lacking in a historical dimension, increasingly divorced from the other social sciences and unable to escape from its assumptions that capitalist categories, values and *mores* are alone and eternally valid. ...by making economics a-historical, the economists made social conservatism orthodox. To advocate further progress by basic social change, was not only politically deplorable, but economically nonsensical.[24]

Both French and German political economy went through similar transitions at similar stages in their national development; first arguing for the civilising influence of capitalism on the grounds of historical change, and then switching to its defence by a-historic assertion.[25] The resulting notion that the economy as an untrammelled market could be separated from other aspects of life was, as Gellner describes it, '...highly eccentric, historically and sociologically...'[26]

Not all agree that liberal democratic industrial capitalism is the final stage of progress which human endeavour can only aim to perfect. Gandhian and anarchist thoughts reject the capitalist ideal outright. There are theories of a 'Post-Industrial' stage that could evolve from industrial capitalism. Most notably, the Marxist tradition views it at best as a stage to be overcome in the socialist transition to communism. For societies such as Australia the

dividing issue has been posed in terms of whether future changes will, or should, be continued growth, adjustment and reform *within* the present institutions, or radical change *to* such economic, social, and political structures.[27]

The assumptions about rationality that underpin assertions about supposed *sciences* of society and history have been repeatedly assailed. From the very complex issues involved, Pollard has abstracted the main objections that reflect on the central idea of progress.[28] At one extreme, it is held that social and cultural enquiry is so far divorced from natural science as to preclude the possibility of objective study or of discovering laws. In other attacks, the influence of accidents or 'Great Men' on the course of history has been held to show that determining factors can not exist (but these objections are readily dismissed if we recognise them as operating on a different level of abstraction from 'society'). Lastly, there is the common failure of predictions based on historical generalizations.

Belief in rational assumptions of progress has been modified not only by these assaults, but also by a widespread rejection of positivism in all branches of knowledge. Few would now assert the predictive reliability of the social sciences with the confidence expressed by their founders.

Endeavour

The point of the historical analysis of and debates about the idea of progress, particularly in its contemporary garb as purposive theories of development, is not merely to interpret the world but, as Marx proclaimed, to change it.[29] However the extent to which endeavour can change the social and natural world is limited by existing conditions, the strength of established trends and the inertia of tradition. The rationality assumptions inherent in the idea of progress enable the future to be prophesied on the basis that the laws or trends, detected by the analysis of past and present, will *determine* the future; yet development policies are plotted on the basis that *voluntary* endeavours can alter outcomes.

In considering this seeming dichotomy between voluntarism and determinism (which originates in the ancient question of free will), it is essential to clarify issues of abstraction and scale. Individual endeavour takes many different, voluntarily chosen, paths which seen alone appear tangled and unregulated, yet which in social aggregate reveal those definite trends that support the idea of progress. In turn the social aggregate acts back on the individual creating the subjective reality within which endeavours are conceived.[30] With this in view, the apparent dichotomies between the individual and society, and between voluntarism and determinism, appear to be false, and the components of each are seen to stand not in opposition but in dialectical relationship with one another.

Moreover, endeavours for more desirable futures are conducted by social groups able to take stronger actions than individuals. Their scale sets the reach of their endeavours but this is often not far enough. The world market for commodities exceeds the reach of any nation to control, and the spread of industrialisation has created, so Pettman argues, global norms which pervade local organisation, culture and values.[31] By contrast, guides to practical endeavours such as the Tasmanian wood industries are prepared on a much smaller scale.

The ability of any social group to progress thus depends on its power to bring the major determinants of its future within its reach. This is a dynamic matter. For example, the successive incorporation of more and more production deeper into the world economic system often means that critical factors slip from the reach of poor countries or small regions such as Tasmania. By contrast, wider social groupings may be formed to reach further, such as the European Economic Community or transnational corporations.

In a similar way to our conclusion about the assumptions of optimism in the idea of progress, we can see that the assumption that endeavours can create better futures must often be taken more as potential or a goal than practice.

In summary, the optimism of thinkers, such as Condorcet in the eighteenth century, that human endeavour based on rational analysis would create a better world must be qualified substantially in the twentieth. What possibilities of rational progress persist only do so in the shadow of irrational nuclear endings.

CONTEMPORARY THEORIES OF DEVELOPMENT

Theories of development, underdevelopment and social change have proliferated since the Second World War. They differ in their initial assumptions, disciplinary or spatial concerns, and analytic frameworks and, because they are directed to purposive change serve social, political and ideological functions in different ways; their content and context are closely related. Most of the reviews of the extensive literature distinguish a fundamental dichotomy, labelled in various ways.[32] On one side are theories developed mainly in the tradition of liberal thought. These are based on concepts such as competition between groups, consensus and equilibrium. They see liberal democratic industrial capitalism as the highest stage of human civilisation and seek development by reform and adjustment. They have been variously described as pluralist, equilibrium, liberal or consensus theories; we will take the label of *modernisation* theories to embrace this group. On the other side are theories developed mainly in the radical or Marxist tradition. They are based on concepts such as modes of production and conflict between classes. They see capitalism as a stage to be overcome and seek development by structural change. They have been variously classed as structuralist, conflict, Marxist or neo-Marxist theories; we will label this group as *radical* theories.

MODERNISATION THEORIES

This label covers a large number of development theories, whose central concern since the Second World War has been the *economic* development of poorer countries or regions. The theories are diffused through many disciplines and sectors, including forestry. On one bound of this rich and extensive literature are psychodynamic theories leading to attempts to raise the level of individual enterprise and motivation; on the opposite bound are theories of investment and trade that lead to aid, tariff and monetary recommendations at the international level, as in the Brandt report.[33] These disparate theories share common assumptions and a common political context.

They are *modernization* theories because they rest on the assumption that traditional societies or impoverished regions can be developed towards desirable goals, commonly conceived in images derived from modern Western industrial capitalist societies. It is assumed that individual units, regions or nations can advance within the whole without disadvantaging others in the process. The second common assumption is that modern societies operate by continual adjustment to maintain an equilibrium between competing forces or groups. This assumption is shared by structural-functional theory in sociology, neo-classical economics, and political theories of pluralism. The third common assumption is that the social or economic effects generated in the modernised sector or 'growth-pole' will diffuse through its surrounds. Thus modernisation theorists see major changes *to* society in the transition to the modern industrial stage, followed by incremental minor changes as growth proceeds.

These assumptions were so firmly and widely held by Western social scientists during the 1950's and 1960's as to constitute a rarely questioned base of belief that allowed them to concentrate on detailed studies characterised by disciplinary fragmentation, empirical data collection and, particularly in the case of economics, a high level of quantitative sophistication. The results were presented with an imprimatur of scientific objectivity as if they

were value-free. One illustration will suffice. In 1958, Hirschmann put forward an economic development strategy based on deliberately upsetting the pattern of a regional or national economy.[34] He advocated concentrating interventionist investment in those particular industries that required large ammounts of materials from other sectors - through backward linkages - and which sold their products for further processing or to many outlets - through forward linkages. Hirschmann held that the temporary imbalance caused by the new industry would induce development, by which he meant productive investment, in the supplying and receiving sectors, which in turn would call forth expansion in further sectors. To estimate the magnitude of these effects, economists called on matrices, designed by Leontieff, showing the purchases and sales between each sector in a national economy in a particular year (input/output tables). The economists assumed that the new investment would represent a marginal addition that would not upset the pattern of transfers displayed by the matrix coefficients. They then calculated with great precision the 'multiplier effects' forecast to occur in the remainder of the economy.

While such analyses illumine the present state of an economy and provide estimates that seem impeccable for small investments and short-term changes, they have three major failings when applied to the many or large-scale investments designed to stimulate sustained development. Firstly, they provide little causal explanation of the effects they forecast. Hirschmann, for example, having rejected the notion of a prime force for economic development, resorted to an almost metaphysical concept of 'development as the key to development'. Secondly, they ignore historical trends that may be altering the pattern of transfers between sectors to a far greater extent than the investments being appraised. Thirdly, they ignore the world-wide setting within which trade and investment occur which may overwhelm any purely regional study.

Policies derived from modernisation theory have taken markedly different lines. One line, acting in the belief that increasing trade will benefit all, has sought to remove the 'imperfections' of

tariffs, quotas and the like that impede access to the world's markets. A more common line has been to attract industrial investment (in the expectation of the diffusion of benefits) by providing cheap resources, specific subsidies, infrastructure, or a docile labour force; or direct investment by the state. Along this line, increased tariffs are often advocated to protect domestic industries from the world market.

The proliferation of modernisation theories and policies during the 1950's and 1960's correlates not only with the economic boom in Western industrialised nations but also with the political realities of the time. To the United States and Western nations such as Australia, modernisation theory provided the vision of a civilising mission for capitalism, one that they could proffer to the Third World during the Cold War. To elites in decolonised or poor countries it proffered glimpses of a path to affluence, and of course it was used to clothe many policies of more or less naked exploitation implemented by the powerful for real not theoretical interests.

Such *contextual* correlations do not prove or disprove the value of the *content* of modernisation theories. However as modernisation policies have commonly failed to redress either international or inter-regional imbalances, they have come under increasing attack. Reviews of the development literature summarize six main criticisms of modernisation theories:[35]

- They fail to explain the increasing gap between rich and poor nations and fail to provide corrective policies.
- They are biased toward static descriptions of structure and neglect the historic analysis of structural change; or when neo-evolutionary stage theories are presented, they fail to theorise the change process or allow for the dynamics of change within stages.
- They neglect to theorise the causes either of structural persistence or change.
- They neglect real conflicts and dissent.
- They are politically biased toward the maintenance of the *status quo*.

- They neglect the international economic and political relationships that bear on the nation-state.

Such criticisms are not necessarily accepted by modernisation theorists. Indeed the range of theory is so wide, and much of it so flexible, that many of the criticisms have been deflected by or incorporated into the modifications of it. However, even if they are admitted, modernisation theories are still left with two substantial strengths which presumably account, apart from their contextual correlations, for their resilience. Firstly, as theories of social statics they have generated an enormous amount of precise description about how societies appear at particular times. Leontieff's input/output tables, for example, do give highly resolved instantaneous pictures of economies. Although some of the topics chosen and the categories selected may not suit other paradigms, a great amount of general utility remains. Secondly, as Pettman has argued for the world level of nation-states, the pluralist perspective does provide a penetrating framework within which to consider the balance of power between competing political groups.[36] Thus in Australia, for example, the several States do act as separate and competing entities in ways not readily covered by the class-oriented perspective of radical theories.

RADICAL THEORIES

The domain we have labelled as radical is bounded by much the same concerns as modernisation theories, while sharing markedly different assumptions and political contexts. It contains rather more in the way of grand theories at the world-historic level, but also has theories for particular sectors, such as education or law. Some sectors, such as that of forestry, have been almost completely neglected. Reviewers classify development theories differently, but all agree that the centre of the radical camp is occupied by a host of often conflicting theories which draw heavily on Marx.[37] We will omit any consideration of the few non-Marxist radical theories in order to keep our attention on the central ground.

The label *radical* reflects the essential assumption that one should seek development by changing the basic structure of society, rather than by preserving it with adaptations and reforms, as the modernisers would do. Because of this assumption, radical theories are held to be in permanent and essential *opposition* to both modernisation theories and the existing order. Instead of an equilibrium of and consensus between competing groups, modern society is seen in terms of conflicting classes. Instead of progress from traditional to modern and a steady adaptive growth thereafter, development is seen as a stepwise process not yet completed. Instead of ascribing the cause of development to a host of different reasons (capital investment, human enterprise, prior development, etc), development is seen as the outcome of contradictions and conflicts originating from the property relations of production, extended by some theories to embrace the inequalities that arise from the exchange of commodities.

Before elaborating the content of radical theories , some comments must be made about their context and analytical structure.

The multiplication of development studies conducted under modernisation theory in the 1950's and 1960's was paralleled by radical critiques and alternatives. The resurgence of Marxist scholarship in Western and Third World countries occurred in the context of the failure of the United Nations' First Decade of Development and the widening rift between rich and poor. It was not confined to international studies but spread to regional and sectoral studies. In contrast to the generally a-theoretic, a-historic, empirical orientation of modernisation studies, radical studies were characterised by their consciously theoretic concerns. In particular, in attempting to build alternative theoretical models their proponents 're-discovered' Marx. As the Marxist method of analysis focusses on the interactions *between* spheres, such as between the economy and the state, an inherently holistic approach was adopted in which the disciplinary separations of modernisation studies had little meaning. Further, the search for causes of structural change required historical analysis.

The content of radical theories will be elaborated in the following sections in terms of Marx's theory of social structure and change, and in terms of a discussion of some criticisms of historical materialism. Each of the three theories that provide the framework for the subsequent case study will then be described.

MARX'S MODEL OF SOCIAL STRUCTURE AND CHANGE

Marx drew ideas, often rebutting them, from three streams of thought about progress current at the beginning of the nineteenth century - German idealist philosophy, French socialism and British political economy; and constructed a new model of social structure and change - dialectical historical materialism. The model was not fully expounded by Marx in a single text but was presented explicitly and implicitly through many writings.[38] The interpretation of Marx's work and the elaboration of this model has created a vast literature of its own in which the original features and subtleties are often altered, expanded or lost.[39] In spite of the danger of trivialising the complexity of Marx's model, and the impossibility of reviewing its subsequent modifications, interpretations and critiques concisely, the main components must be detailed, and some of the main limitations (as summarised by a major contemporary authority - Kolakowski) must be considered.

1. Dialectical process and progress

Marx inherited and accepted the concept of the dialectic from Hegelian philosophy as a universal model of change. The dialectic is a conception of a state of tension or conflict existing between two opposing elements (*thesis* and *antithesis*) which is resolved in the creation of a new state (*synthesis*) which calls forth fresh opposition, and so progressively on. Thus the *process* of conflict between opposite elements of the whole results in *progress* to a new state of the whole which is *qualitatively* different from its predecessor. Hence the elements of dialectical relationship can *only* be understood in terms of the whole.[40]

Hegel and Marx, using the notion of struggle and tension to account for movement between successive characteristically different stages, applied the dialectic interrelation to their analyses of the long course of social history and to project its future. Hegel argued that progress must have a terminus, which he saw as freedom of the human spirit (improbably realised in many institutions of the Prussian state !), and which Marx saw as the self-realisation of the individual in communist society.[41] To Marx, the dialectic progress of human history from one epoch or stage to another was effected by the struggle between classes, and marked by revolutionary upheavals.

2. Material basis

Although Marx accepted the dialectic as method, he rejected Hegel's idealist view that '... history is an account of the spirit's search for freedom through the variety of past events'.[42] Instead Marx viewed '... universal history [as] nothing but the formation of man by human labour...', thus locating the dynamic of progress in the material world in which human society struggles to survive by the subjugation of nature.[43] Human reason and incessant inventiveness, applied to improving production methods (technology) and organisation (the technical division of labour), enables more than the basic needs for survival and reproduction to be met. The existence of a surplus creates the potential for conflict about its division and the possibility of a class society in which some people appropriate the labour of others. In Marx's view, the legal and political forms of society arose from the productive sphere that created the surplus. Moreover looking at the development of civilisation from the earliest times, Marx held that each particular technical *form* of production was intimately related to its own particular *relations* of production in a unity which he termed the 'mode of production'. The surplus also permits leisure and cultural development through intellectual and artistic work. In sum, Marx held that the entire set of social relations, institutions, cultural and spiritual practices - the 'superstructure', and the socially constructed consciousness, rested on the material 'base'.

3. Two types of change

In Marx's model, the dynamic for great changes originated when advances made in production, which called for new social relations, conflicted with the relations of an old social order. Thus:

> At a certain stage of their development, the material productive forces of society come in conflict with the existing relations of production, or - what is but a legal expression for the same thing - with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an epoch of social revolution. With the change of economic formulation the entire immense superstructure is more or less rapidly transformed.[44]

This mechanism was held to apply to the macro changes in Western societies between '... ancient, feudal and modern bourgeois ... epochs in the economic formation of society'.[45]

The European invasion of Tasmania was certainly an epochal change, but the transition from the tribal society to the invading society was extremely short, the last aborigine being rounded up within thirty years of the invasion. The new society was a product of the industrial and social revolution in Britain, and the epoch with which this study is concerned is clearly the bourgeois one of capitalism.

Marx's model was developed, especially in *Capital*, to consider change *within* capitalism, which he considered to be a unique epoch distinguished from all earlier ones by the '... constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation ...'[46] Marx considered that the dynamic for this foment originated from:

a) Inter-class struggle. Struggle between classes arose over the extent and division of the value created by labour beyond the amount needed to continue the system - 'surplus value'.

b) Intra-class competition. Competition occurred primarily between capitalists in the market, but also occurred between the employed and the unemployed.

4. Classes

Classes, as elaborated in Marxist theory, are social groups whose fundamental economic, political and ideological interests conflict (or at least are discrete) as a result of the manner in which production is organised socially. Any society of which they are part becomes polarized.[47] Marx used the concept of class on two levels of abstraction. In theoretical works, he differentiated classes according to: ownership of the means of production (tools, factories, raw materials etc.), control over the products (sales), and a distinction he made between directly productive and unproductive work. For capitalism he recognised 'the two great hostile classes' as being the *bourgeoisie*, who own the means of production and/or control the exchange of products, and the *proletariat*, who are forced by necessity to sell their labour power. In historical studies, Marx added ideological, social and employment criteria to describe empirical classes whose behaviour he related to the theoretic classes. An essential feature of Marx's concept of class was that its members should become conscious of their common interests in opposition to other classes even though such members might be in competition with each other.

Within the bourgeoisie, various *fractions* were identified according to the manner in which capital was deployed by merchants, industrialists, financiers, rentiers etc. The proletariat was divided between the employed and the unemployed or 'reserve army of labour'.

5. Marxist economics: Laws of motion of capital

The two interactions of inter-class struggle and intra-class competition provided the foundations on which Marx constructed the detailed model of change within the capitalist mode of production that he presented in *Capital*.[48]

Marx held that value originated *only* from labour. Under capitalism, workers sold their labour power as a commodity to capitalists who bought more than they paid for; the difference, or

surplus value, constituting the sole source of capital accumulation. Marx traced the paths through which surplus value, created in production, circulated through the economy and he identified the points at which it accumulated as capital. Four major types of capital were defined by differences in the paths of circulation: industrial, commercial, banking and landed capital.

The capital accumulated at these points could be reinvested to expand the production with which individual capitalists could attempt to capture greater shares of the market. The resulting competition constantly bore down on prices and profits so that individual survival depended on a ceaseless striving to reduce production costs. To this end new technologies were sought and larger factories built to achieve economies of scale. This process inevitably drove out the smaller more expensive producers and led to the concentration and centralisation of production and capital into fewer and fewer hands.

Profits were also determined by the outcome of struggles between capital and labour over wages, hours and the organisation of work. Capitalists adjusted to changing outcomes by introducing new production methods which offered them one or more possible advantages:

- Machines could replace labour to reduce production costs.
- Labour could be displaced into the reserve army of labour which exerted a downward pressure on wages.
- Craft and skilled work could be divided into simpler tasks which could be performed by less skilled and cheaper workers (deskilling).
- The intensity of labour could be increased by scientific management (ie. Taylorism) or by pacing the tempo of work to a production line (ie. Fordism, eg. sawmills).

Changing markets and labour relations continually required capitalists to adjust their investments between old and new technologies, between various sectors, between regions and between countries. Their ability to adjust depended on the mobility of money capital, the possibility of realising on unwanted physical assets

such as old machines, and the speed with which new investments could be made. Overall, capital flowed to the most profitable investments producing a tendency for the rate of profit, suitably adjusted for expectations of risk, to equalise.

Marx's model considered that gradual adjustments to the economy were possible, through movements of wages, prices and profits, but only up to certain limits. Inability to adjust beyond these limits induced crises leading to the recomposition of capital through structural change. The model also envisaged that the periodic crises and structural changes within capitalism would lead eventually to a deepening crisis in which capitalism itself would be changed.

6. Civilisation and alienation

Marx saw progress in the dialectical form of two opposing elements - civilisation and alienation. He regarded the passage of human societies through successive epochs as a progressive and civilising movement towards the desirable terminus in which man would regain full control over his own powers and energies. Thus he saw capitalism as a progressive advance on feudalism which brought socialism one stage closer. He also saw capitalism, in much the same way that modernization theorists do, as liberating traditional societies from outmoded relationships, and providing a stupendous increase to human productive powers through industrialisation.

In contrast to the classic expositions of the idea of progress as change towards increasing freedom (or the views of contemporary modernisers), Marx regarded the passage of societies through capitalism and their development within it as one that entailed increasing degradation, dehumanisation and alienation. Alienation means a condition in which people's works, as generally expressed in their social institutions (like the state or private property) take on a life of their own and come to control them. He traced its primary source to the division of labour. Marx considered that capitalism represented the extreme development of alienation and that this was epitomised by the expropriation of surplus value by the

bourgeoisie (from the proletariat). He forecast that the continuous operation of capitalism would result in increasing alienation and falling living standards - 'progressive immiseration' - for the working class. Moreover he rejected the liberal notion that social harmony could be created or restored by legislative reform to balance the conflicting forces. He believed that it could only come about when the causes of alienation were removed.

CRITICISMS OF HISTORICAL MATERIALISM

The Marxist model of development has been attacked, altered and defended repeatedly. Here, two main issues only will be discussed: dialectic method and determinism. The discussion is based primarily on the substantial analysis by Kolakowski, and to a lesser degree on the work of Mills and Berlin.[49]

The dialectic

Mills has described the dialectic method as '... either a mess of platitudes, a way of doubletalk, a pretentious obscurantism - or all three ...' on the grounds that the method was not an explicative theory and was often applied more to obscure than clarify.[50]

In defence, Mills did note that in Marx's hands it had been a powerful tool to rebutt earlier theories and with it he:

> ... achieved a sense of the fluidity and many-sided nature of history making; saw the 'universal interconnection' of all its forces; consistently maintained an awareness of perennial change, of genuine conflict, of the ambiguous potentialities of every historical situation ...[51]

At this level, Mills' criticism serves as a salutary warning and his defence provides a list of desirable attributes in historical research. However, the Marxist concept of the dialectic, as Kolakowski points out, refers specifically to the *conscious* struggle between classes and captures the idea of the unity of theory and actual change as one which can not be reduced merely to a rule for research.[52]

Determinism

Kolakowski, like many before him, has criticised historical materialism on the grounds of determinism.[53] His main arguments are these:

- The notion that the economic base determines the superstructure is a truism if taken loosely to cover just *some* phenomena, and absurd if taken rigidly to cover *all*.
- The conventional qualification that the base determines the superstructure only 'in the last instance' does not provide any criteria to explain which elements are determined.
- Similarly, there are no criteria for selecting between the historical phenomena which were determined and those which were contingent. Hence historical materialism is unable to establish laws from which forecasts might be made.
- The universal model can not explain all the diverse wealth of social phenomena, such as the different paths that have been taken in national development, the influence of great men, the inertia of tradition and so forth. Attempts to introduce secondary factors weaken the model to the point that it becomes too vague to be useful.

In spite of these criticisms, both Kolakowski and Berlin have emphasised the value of historical materialism in developing research principles and the questions that have now become the foundations of economic history and sociology.[54]

Such criticisms have fuelled the debates and stimulated the theoretical studies that have greatly expanded and diversified Marxist models of development. Two examples - of work by Gramsci and Wright - illustrate the point; one which is further elaborated in later discussions of the changes within capitalism and the nature of the state.

Gramsci sought to remove the priority of the base over the superstructure on the grounds that interaction between them was continuous. He extended the concept of *hegemony* to capture the

situation in which privileged classes maintain their political power not just by controlling the coercive institutions of the state but also by attaining an intellectual supremacy that enables them to impose their values and standards on society at large.[55]

Wright elaborated the simple model of the base and superstructure to incorporate the sort of interactions prompted by state policies and class struggle. He extended the simplistic notion of economic determination of the sort Kolakowski criticises, to encompass five further modes of determination.[56] This extension emphasises the subtle and dynamic nature of social change such a model allows, without weakening it.

A FRAMEWORK OF RADICAL THEORIES

Marx described capitalism in terms of general laws derived during the rise of industrial capitalism in Britain and constructed his development model at a high level of abstraction. Later theorists built on the model to explain new features of capitalism, extended it to different societies or sectors, and elaborated or modified it in hotly disputed ways. Among the many paths along which radical theory has been advanced, there are three that provide a framework within which to study in detail the development of a small sector like the Tasmanian wood industries.

A major task for radical theorists has been to explain structural changes within capitalism, as these have developed historically and spatially, in terms of Marx's general laws of capital. To do this many theorists have divided the epoch of capitalism into stages. For examples, Lenin, writing in 1916, linked the emergence of monopolies and imperialism and described the latter as 'the highest stage of capitalism'; Mandel described the contemporary period as an age of 'late capitalism'.[57] Such divisions depict changes to the salient features of capitalism on a world-historic scale and, given the holistic approach of radical theory, provide the necessary setting for regional studies.

The division of capitalism into world-historic stages, however necessary, is too coarse for detailed regional studies over short periods. On this scale, it is the shifting changes between the features of different stages that constitute the processes of development. Radical theorists have advanced a model of the interactions, or 'articulations', between pre-capitalist and capitalist modes of production within certain Third World countries to analyse the persistence of primitive forms of production in the presence of capitalism.[58] This approach has been extended recently, by Gibson and others, to analyse structural change within the capitalist mode of production, and provides the second body of radical theory applied to the case study here.[59]

The structural changes in capitalism have been accompanied by superstructural ones, most particularly the emergence of the modern state. This has been essentially a progressive change, as the state has become a rationally designed institution adopted and adapted for development rather than just rule; it has acquired more functions and undertaken ever greater projects, such as reproducing forests.[60] Radical theorists have added considerable subtlety to Marx's simplest depiction of the state as nothing but '.. a committee for managing the common affairs of the whole bourgeoisie ...'[61]

We will now elaborate in turn each of these three bodies of radical theory that provide the framework of the subsequent case study.

THE WORLD-HISTORIC PERSPECTIVE

We will first elaborate the world-historic perspective. Four closely related bodies of radical theory are relevant: those of dependency, world-systems, imperialism and underdevelopment. Each describes world development as occurring in stages, and seeks to explain the combined but unequal development of the metropolitan 'core' of rich industrialised nations in relation to the 'periphery' of poor and generally rural ones. They give little attention to

countries such as Australia which do not match the world pattern, but they do essay a world-historic view within which to place the Tasmanian experience.

1. Dependency

Dependency theory seeks to rest the explanation of unequal development primarily on the structure of international trade. Following studies that revealed a supposed long-term trend to worsening terms of trade for primary produce exporters in developing countries in their exchanges with industrialised countries, Frank produced his model of the 'development of underdevelopment'; one which has been widely described, emulated and criticised.[62] Frank depicted the rise of the world commercial network as one which built a series of chains, transmitting the surplus from the periphery to the metropolitan core. The periphery was held in dependent status by being restricted to the export of those raw materials required by the dominant core. The situation was maintained, despite the political independence of such satellites, by the hegemonic influence of metropolitan capital acting through the special interests of privileged local elites. Frank's model effectively stood the diffusionist notion of modernisation theory on its head, however it failed to provide causal explanations of the lack of accumulation in the peripheries, and it most notably failed to explain cases like Australia or Canada in which dependence was accompanied by development.[63]

2. World-systems

The most ambitious of several world-systems theories is the project being undertaken by Wallerstein to analyse the development of the 'modern world-system' which he defines in terms of the reach of the capitalist world-economy that originated in Europe in the sixteenth century.[64] Wallerstein defines the capitalist world-economy in turn in terms of '... the essential feature of ... production for sale in a market in which the object is to realise

maximum profit.'[65] He thus sees capitalism as a system with a single division of labour but with multiple polities and cultures.[66] For him, wage labour is an example not a condition of capitalism, and mercantilism is a response to the conditions of the world-system at the time rather than a transitory stage that capitalism overcame.

In Wallerstein's analysis, the nature of the states formed at the core, the periphery and an intermediate layer - the semi-periphery - are an intrinsic part of his model of the world-system:

> Once [after 1640] we get a difference in the strength and state machineries, we get the operation of 'unequal exchange' which is enforced by strong states on weak ones, by core states on peripheral ones. Capitalism involves not only appropriation of surplus value by an owner from a labourer, but an appropriation of surplus of the whole world-economy by core areas. And this was as true in the stage of agricultural capitalism [1650-1730] as it is in the stage of industrial capitalism [1740 -1917].[67]

In documenting the development of the modern world-system, Wallerstein sees changes of political structure in both core and peripheral states in terms of responses to changes in the system as a whole, as defined by the economy of trade.

This model has been critically reviewed by Brenner and Skocpol, among others.[68] Among the many complex issues raised, Brenner claims that it fails to provide an adequate explanation of economic development, because it does not examine fully the creation of value and has missed the essential expansionary feature of capitalism, seen as the serial rise in labour productivity, which generates accumulation and the imperative to reinvest. Skocpol claims that the model fails adequately to theorise the processes of state formation and structural change.

Alexander has given an interesting interpretation of Wallerstein's work as providing a theory of 'unequal development' structured by unequal social relations that he claims does not depend on the inequality of actual exchanges.[69] Although Wallerstein's major work has so far (to 1981) only covered the development of the world-system to 1750, Alexander has foreshadowed how a Wallersteinian explanation would view the subsequent period with which this study is concerned. Briefly, the model is concerned with the long waves of

expansion and crisis in the world-system. Expansion is related to periods of unassailed hegemony, first of Britain, then the United States. Periods of crisis, such as that bounded by the First and Second World Wars, are related to changes in the balance of power caused by the excessive costs to the old hegemonic power of maintaining its dominance.

As Alexander points out, the virtue of Wallerstein's work lies in its insistence on viewing world development as a whole. With this perspective we are encouraged to consider the structure of the Tasmanian state in terms of its functioning within first the British empire and later a wider economy dominated by the US. While we must wait for detailed work by Wallerstein on the nineteenth and twentieth centuries, the periods he envisages using appear to correspond closely to those adopted by Marxist theorists of imperialism and neo-imperialism.[70]

3. Imperialism

Radical theories of imperialism seek to explain the global spread of European control, wars between major powers, the expansion of trade and the movement of labour and capital out from the core, in materialist rather than strategic or ideological terms.[71] The main stages and features appear to be widely agreed.[72]

From the fifteenth century the leading European nations sailed across the world in search of gold and trade in high quality products. The first European knowledge of Tasmania came from the restless search for more Eastern trade. In 1642, Abel Tasman sailed from Batavia for Holland's United East India Company:

> ... to discover, the partly known and still unreached South and Eastern land [Australia], and also consequently to seek out any important lands, or at least convenient places to known rich places, and to use these at a more convenient time for the improvement and increase of the Campany's general welfare.[73]

He visited and named Van Diemen's Land, now Tasmania, but failed to discover riches and sailed on. He did not even see the Aborigines, a people who had made no external contacts for at least 7000 years.[74]

By the end of the eighteenth century, British prosperity depended not so much on plunder as on trade in her manufactures. European powers searched the world not just for riches but for raw materials, markets and new opportunities. These broader aims brought a succession of explorers to Van Diemen's Land. A French expedition landed briefly in 1772 and gave the Aborigines their first and ominously bloody contact with Europeans. The next visits were by Furneaux (from Cook's second southern voyage) in 1773 and Cook himself in 1777. Not only were Cook's voyages of commercial and strategic importance but they epitomised (very concretely in the person of Banks on the first voyage!) the new European ideas of progress by scientific inquiry. Specimens of the resources and descriptions of the people of Van Diemen's Land were collected as objects for remote and alien enquiry.

Although pre-eminent at sea, Britain had to struggle with France throughout the Napoleonic period before her hegemony was assured. From 1815 to the 1870's the boom of industrial production in Britain, and to a lesser extent in other European countries, required more raw materials and food (such as Australian wool and wheat), and the expansion of markets. The spread of trade and some expansion of the formal empire were sufficient to maintain British hegemony, and either transform traditional production patterns into capitalism, or eliminate them - as in the case of Indian textiles or the indigenous Tasmanians. Trade required investment in railways, docks and production, which Marx believed (correctly in the case of Tasmania) would start the process of capitalist industrial development so that '... the country that is more developed industrially only shows to the less developed, the image of its own future'.[75]

From the 1870's to 1914, imperialism flourished as never before. The rising industrial nations of Germany, France and Italy scrabbled for colonies and Britain sought to secure her domains more firmly. Capital was exported from the core to develop the peripheral infrastructures for imperial trade, and to invest in productive enterprises such as mines and sawmills. Concurrently capitalism within the core itself was changing. There was the strong growth of

monopolies through cartels, trusts and amalgamations, particularly in Germany and the United States, and new institutions were organized to amalgamate banking with industrial capital into what Hilferding termed concentrations of 'finance capital', large enough for the construction of heavy industries.

By 1916, Lenin was able to prepare a synthesis of imperialism as an outcome of the fundamental characteristics of capitalism depicted in Marx's model. Lenin defined imperialism to include five features:

i) The creation of monopolies with a decisive role in the economy.

ii) The creation of finance capital.

iii) The export of capital (rather than just commodities) seeking better profits than those available in the core.

iv) The formation of international monopolies and cartels which share the world amongst themselves.

v) A territorial division of the world among the biggest capitalist powers.[76]

Lenin's model has been severely criticised and does not fit the British-Australian relationship in several places.[77] In Britain, the growth of monopolies generally occurred much later than in Germany and the US, and mostly *after* the imperial expression. The export of capital from Europe was not mostly to backward countries and new colonies, but to other advanced countries and places where there were less risky opportunities - like the US, Canada and Australia. Moreover, the net capital flow in Britain prior to 1914 was generally inwards due to the profits from previous investments. Further, the links between investment and military alignment and adventure were not nearly so straight forward as Lenin supposed. Nevertheless, as Kemp points out, the first four of Lenin's features have proved of enduring importance in shaping the contemporary world.[78] The fifth has disappeared with de-colonisation and has led to further theoretical developments.

4. Neo-imperialism and Underdevelopment

The Leninist theory of imperialism could not explain the relative lack of metropolitan resistance to colonial independence

movements after the Second World War, the failure of most of the new nations that emerged to sustain their economic and social development once free of political control, and the rise of US hegemony without conflict with Britain. Theories of 'neo-imperialism' or underdevelopment were built that described a new world structure of economic imperialism. Its features can be related to Lenin's:[79]

i) The continued concentration of capital has led to the extension of monopolies into transnational conglomerate corporations which have integrated their production processes and the distribution of *multiple* commodities on a world scale.

ii) The international centralisation of capital has been furthered by the creation of international financial institutions, such as the International Bank for Reconstruction and Development (World Bank).

iii) The export of capital has been followed by the export of production. The developed, former imperial nations, where labour struggles have succeeded in raising real wages significantly, are being, at least relatively, de-industrialised while certain countries and zones in the periphery with lower wages are attracting new investment.

iv) International monopolistic countries which share the world market have become much more of a reality than when Lenin largely foreshadowed their importance.

v) The political division and alignment of the world has become more complex than envisaged by Lenin. On one hand, US economic domination, backed by military clout and internal subversion, reaches further than the British empire ever did. US hegemony declined somewhat after 1965 in the face of combinations by European and oil producing countries, and in consequence of her military retreat from Vietnam. On the other hand, the giant transnational corporations are able to play nation states off against each other, weakening their natural autonomy (including that of the US).

Radical theorists differ considerably in their assessment of the processes at work. Some emphasise trade (Frank and Wallerstein),

seeing exchanges as unequal in terms of either use value (Prebisch) or labour content (Emmanuel); some emphasise the role of merchant capital (Kay); some emphasise production and the new international division of labour (Fröbel). Others have endeavoured to construct more complex models. Wright, for example, has described the historical transformations of capitalism in terms of the logic of Marx's economic model and his own elaboration of modes of determination mentioned earlier.[80] Mandel has adopted six variables in constructing his economic model and introduced further technical and social features to explain the development of capitalism.[81]

In spite of such improvements, we need to bear in the mind the limitations of the models of the world structure that radicals have constructed. Firstly, their ascription of conflict to economy and class appears to seriously underestimate ideological, nationalistic and strategic factors which the pluralist perspective (taken by the modernisers) handles with considerably more ease[82]. Secondly, while all such models are limited to describing regularities, world history can contain events which seem unpatterned or at least unexpected.

STRUCTURAL CHANGE *WITHIN* CAPITALISM

We will now elaborate the theoretical advance made by Gibson and her co-workers that enables structural change within capitalism to be analysed in a manner comparable to the analysis of the articulations between pre-capitalist and capitalist modes. Gibson's advance was to define a level of abstraction and analysis between that of the mode of production, as defined by Marx, and the concrete social formation. The identification of structural variants at the *intermediate* level provides a means of projecting Marx's model down to a level that is more historically specific. Coherence between levels of abstraction was maintained by using the key features of Marx's model (inter-class and intra-class relationships) to discriminate between variants. Gibson defines each variant, or sub-mode, as a structure having a particular connection between:

a) Capital-labour relations. In each sub-mode qualitatively different mechanisms of coercion and control are used to produce and extract value from labour.

b) Capital-capital relations. In each sub-mode, surplus value traces a different path through the economy and is accumulated as capital at different points.[83]

With these criteria, Gibson has recognised three variants of the capitalist mode of production: the *competitive*, *monopoly* and *global* sub-modes of production. These have the following characteristics:

Competitive sub-mode of production

The operation of competitive capitalism in its classic form is well known. Virtually the whole of the labour force is able to be grossly exploited by numerous small capitalists because of the large size of the reserve army of labour. Capitalists compete fiercely with each other in a free market. Prices and wages are forced down, and capital is accumulated by successful competitors on a localised basis.

Monopoly sub-mode of production

Capitalists operating in the monopoly sub-mode are able to profit both from employing labour, much as competitive capitalists do, from raising prices in the monopolised market, and often from depressing prices paid to dependent suppliers. They accumulate capital both from the direct exploitation of labour and from unequal exchanges with the competitive sub-mode. Labour within the monopoly sub-mode is often able to win better wages and conditions than in the competitive sub-mode. The labour force is generally more structured and organised, and the reserve army of labour tends to bear primarily on the lowest levels.

Global sub-mode of production

Production in the global sub-mode is organised on an international basis with capitalists distributing their factories

wherever resources, labour costs and governments favour them. Capital is highly mobile and able to play one site, state or sector off against another. By threatening or moving production across the globe the reserve army of labour is internationalised and pressure from it can be applied remotely. Capital is accumulated as in the other sub-modes and through a maze of financial transfers that effect unequal exchanges of use or labour values across the globe. (A reservation must be added to Gibson's use of 'global' to describe this sub-mode, as production in Russia, China and other communist countries is at present largely outside the capitalist world-system).

Gibson has recognised three further structures that have operated in Australia:[84]

Aboriginal pre-capitalist mode of production

Production in Tasmanian Aboriginal society was based on hunting and gathering the means of subsistence and did not generate a surplus that could be accumulated. Classes did not exist. Labour was divided by sex. Land, the prime factor in production, was divided into territories shared by all members of a tribe. There was no overall social structure that coordinated the tribes.

Prison farm mode of production

Production in the first European settlements was directly organised by the state. The means of production - land, tools, seeds and animals - were owned by the state, the labour was directed by the state, and the products were distributed to warders and convicts by the state. Capital was accumulated but not realised as cleared land and infrastructure. This mode of production was retained as a punishment, and applied to cutting timber in Tasmania.

Small business mode of production

> In the small business, or petit-bourgeois, mode small capitalists not only own but participate directly in their businesses. Labour comes from the owners, and typically their families, sometimes aided by a few wage workers who may be only casually or intermittently employed. Farming, shopkeeping and a host of small milling, manufacturing, transport, contracting and other small businesses have been conducted in the small business mode. They accumulate capital from saving, trading, and employing, but their ability to do so is strictly limited by their small scale, their often dependent position both as purchasers and sellers, and because lacking reserves they are forced to borrow, particularly against seasonal or market fluctuations.

A given society at any particular time may contain more than one of the structures defined by Gibson, each characterised by its own set of relations. Thus the Tasmanian wood industries in 1982 contain a dominant monopoly sub-mode, an associated global sub-mode, a partly subordinated competitive sub-mode, and a dependent small business mode.

With the aid of Gibson's scheme we can attempt to unpack the development processes, and to examine them in detail as interactions between the sets of relationships that define each structure. Gibson has not explored the superstructural ramifications of such changes but has pointed to them as matters for further examination. In this study we shall be particularly concerned to trace the inter-connections between the state and changes in the structures of production.

THE STATE

We will now consider the third component of the theoretical framework needed in this study - radical theories of the capitalist

state. Recent reviews have classified radical theories into several schools, each of which we will consider:[85]

Class Instrument

One school has followed Marx's basic insight and investigated the manner by which the capitalist state is used as an instrument by the bourgeoisie to advance their class interests. The personal links by which power is exercised between capitalist and state institutions have been investigated in detail and the work has usefully revealed differences and conflicts between different fractions of capital. The limitations of this approach are severe. It does not account for the increasing separation between capitalists and politicians that became particularly marked in Australia during the twentieth century for example, nor does it theorise change processes.

Class and Cultural Structure

Although strong instrumental linkages often exist they are not necessary or sufficient conditions to explain what is an *objective* relationship between the bourgeoisie and the capitalist state. The 'structuralist' school has analysed the function and operation of the state in relation to the class *structure*.

Poulantzas has elaborated this approach, with detailed descriptions of the class fractions in contemporary society and the role of the state in mediating inter-class or intra-class relationships.[86] For this he sees the apparent autonomy of the state as functional to maintain the cohesion of the state.[87] Poulantzas incorporates the notion of cultural and political hegemony developed by Gramsci (mentioned earlier) into his work.

Analyses of class and cultural structures are insufficient on their own and need to be informed by economic analyses to provide the dynamic element of change essential in Marxist models.

Capital logic

The increasing direct involvement of the state in *economic* as distinct from *political* activities (analysed by instrumentalists and class structuralists) has led to analyses of the state as a functional part of the accumulation process. Theorists within the 'capital logic' school intepret the activities of the state as those of the 'ideal collective capitalist'.

Appearing almost as the obverse of analyses of class structure, analyses of the state in terms solely of meeting the logical needs for capital accumulation need to be informed by analyses of class relations.

Dynamic relationships

More recent theoretical work has provided more dynamic models which consider interactions between the economy, class relationships and the state.

O'Connor has analysed the budgetry crises encountered by the contemporary state as it pursues the incompatible functions of assuring the conditions for accumulation and providing the general welfare that ensures social harmony and legitimates capitalism. With examples from Australian conditions, Butler has claimed that such a theory needs to be expanded to consider transfers between different fractions of capital.[88] Offe has clarified the structural features of the state, along similar lines to O'Connor in the following terms:[89]

- The state is excluded from direct accumulation and allocation of private capital.
- The state depends on revenues from the private sector that is outside its control.
- The state is required to ensure that the conditions for accumulation are maintained.
- The state has to juggle the needs of private capital accumulation, the maintenance of its own revenues and existence, with the need to maintain popular support.

The resulting complex network of interactions between the structure and policies of the state, relationships between classes and the economic structure, has been defined in terms of a detailed system by Wright and others.[90]

In spite of their differences, we can regard these various schools of theory as providing complementary and cumulative insights into what are very complex relationships, and we can conclude, with Corrigan, that all state forms under capitalism *are* constituted through continuing conflicts, struggles and contradictions, despite their seeming natural and civilised status *above* society.[91]

In Tasmania, the state is especially important to the wood industries, for it controls and manages two-thirds of the forests which the capitalist industries exploit.

FORESTRY

In turning to forestry, we will consider matters that are particular to producing wood, and the theoretical perspectives that have been taken, by those who study such matters, on development.

Histories of forestry - as the organised, purposive, and rational management of forests - bring out themes common to many countries.[92] Forests were destroyed by clearing for agriculture, fire, overgrazing and logging from ancient times; that is, in more than one mode of production. In Europe, the rate of destruction accelerated markedly with industrial expansion in the seventeenth century as ever-more fuelwood was consumed by iron foundries and glass works. Deforestation led to shortages of what was a key energy resource, and of strategic supplies of ships' masts and timbers. In mountain catchments it led to avalanches, erosion, flooding and drought which damaged settled areas. Deforestation was typically countered through *state* legislation, reservation of forest land, and the regeneration of despoiled areas. More recently, the state has undertaken not only to reserve and manage existing forests, but to

expand the production of industrial wood by establishing plantations. (Many other themes arise, such as the supply of timber to home and farm, or conservation and aesthetic values, but they are not of direct concern to the industrial focus of this study).

Crops of trees differ from agricultural ones because of the very long time - ranging from 20 to 200 years - that they take to grow, and because several commodities, services and intangible benefits are produced jointly from any one area. A particular stand of timber in Tasmania, for example, might now yield: logs for a plymill, logs for a sawmill and wood for a Japanese or Australian pulpmill - all used in different structures of production - as well as such non-commodity values as recreation, conservation, scenery and water supply.

Forestry serves productive, reproductive and integrative functions for industry which take on particular meanings as state activities under capitalism. By providing infrastructure, information and other services, the state legitimates and facilitates exploitation of the resource and hence the *production* of commodities and capital. By renewing or expanding the resource, the state ensures that the long-term *reproduction* and *expansion* of industry and capital are possible. By mediating disputes and planning allocation of the crop between users to attain complementary benefits, the state facilitates the *integration* of different capitals. Particular activities often serve more than one function. For example, building a forest road commonly provides access to the resource (productive), access to regenerate and to protect cut-over areas (reproductive), and its costs may be spread between users (integrative).

The surge of development studies after the Second World War was reflected in a number of forestry studies in the 1960's, all conducted under modernisation theory. Johnston, Grayson and Bradley's text on forest planning introduced concepts of welfare economics to the British forestry scene.[93] On the international level, capital investments in plantations to supply industrial raw materials were advocated as part of the industrialisation package for underdeveloped countries.[94] In a guide to preparing forestry

proposals for the World Bank, Watt did consider adding some social issues to the conventional capital budgeting approach.[95] On the whole, these studies were firmly in the modernisation camp. (Note though that the advantages of foresting denuded catchments and other environmental matters were also raised that are not so readily categorised into the two theoretical camps considered here). Disillusionment with the modernisation policies of industrial development appears to be reflected in the increased interest in village level rural development and the fuelwood projects in under-developed countries reported recently in the international literature, but as mentioned earlier, any analysis or critique of the sector from the radical camp has been almost totally absent.[96]

It is the thesis of this work that modernisation theory does not provide the only way to analyse the wood industries and forestry sector; radical theories, three of which we have elaborated, provide a rational and effectual alternative. This will now be demonstrated in the case of Tasmania.

Chapter 2

TIMBER PRODUCTION IN THE PRISON FARM

> Van Diemen's Land is an island of considerable extent, situated between the parallels of 40 and 44 degrees south latitude, and 145 and 149 degrees east longitude. It is divided from New Holland by a channel, about 100 miles [160 km] in width, called Bass's Strait, and contains a chain of numerous small islands running north and south.
>
> The coasts on every side, present Capes, Headlands, and Points; and there is not perhaps in the world any island of the same size that can boast so many fine harbours as Van Diemen's Land.
>
> The surface of Van Diemen's Land is richly variegated and diversified by ranges of moderate hills and broad valleys, presenting the most agreeable scenes, and replete with whatever rich soil and fine climate can produce. The hills, the ridges of which form irregular circles, are for the greater part wooded; and from their summits are to be seen levels of good pasture land, thinly interspersed with trees, the grass growing most luxuriantly.[1]

So did the surveyor, George Evans, describe the setting of the island in 1822 catching both its isolation and the richness of nature. While Evans' eye was drawn to the natural pastures, earlier navigators had not failed to notice the fine trees growing almost to the waters edge, and later prospectors were to find minerals in abundance.[2] Prior to European settlement, there were probably about 4,000 Aborigines in Van Diemen's Land.[3] Their static society had made negligible impact on its resources although their repeated burning was largely responsible for the grassy openness upon which Evans so remarked.[4] By contrast, the small groups of Europeans that landed in 1803-04 increased and expanded rapidly across Van Diemen's Land. They destroyed the Aboriginal society, made spectacular changes to land and forest, and restlessly developed their society from a simple prison farm into a complex and highly productive industrialised society of some 400,000 people. In this study, we will examine one sector of that development.

In this chapter, we will consider first the rise of competitive industrial capitalism in Britain and the forces that led to the

invasion of Australia and the settlement of Van Diemen's Land as a penal colony. Then we will consider the first structure by which timber was produced - the prison farm mode - and its articulations with the nascent structure of competitive capitalism.

BRITAIN

The time of Tasman marked the end of the long crisis of feudalism during which a European world economy had been built, and the start of a stage of consolidation in which the major powers struggled to carve it into commercial empires.[5] By the time of Cook Britain had emerged as the dominant economic power, and in spite of losing her American colonies (1776) had clearly surpassed the Dutch and Spanish and was to defeat Napoleon's challenge (1796-1815) to her hegemony.

The capital accumulated in Britain by domestic production, world trade and plunder was applied to the increase of further capital by adopting the capitalist mode of production in both agriculture and manufacturing. In agriculture, the ancient systems of peasant farming were replaced by new crops, marling, draining and the rotational system of arable farming, while rough grazing on common land was replaced by improved pastures and better breeds of stock. These changes were effected in part by enclosing much of the common land which displaced the cottagers who used it and formed them into a rural proletariat.[6] In manufacturing, the changes in the methods and organisation of production were so rapid that the 1780's have been termed the start of the 'Industrial Revolution'.[7] The work of individual craftsmen, local workshops and small mills, organised in domestic, guild and other small-scale relations of production, was superseded by factories with more mechanised methods and capitalistic relations.[8] The pattern of trade changed too, as more raw materials, food and timber were imported and more manufactures, such as cloth and paper, were exported. While the development of the textile industry is well known, change proceeded differently in other

industries, and it is relevant here to consider the production of paper and sawn timber.

Paper making

European paper-making during the seventeenth and eighteenth centuries was a skilled craft process organised in small mills. Only the maceration of the cotton rags used as raw material into pulp by water-powered stamping could be mechanised, and the actual formation and drying of the paper was a manual process in which each sheet was separately made by a team of craftsmen.[9] In Tasman's time, England only used an equivalent of about 0.1 kg per person each year, but by Cook's time a larger and more literate population used the equivalent of 1.1 kg each.[10] Until about 1670, Britain had imported almost all her paper requirements, but then rapidly built up her own industry to have some 200 mills employing some 3 000 workers by 1720, and 450 mills producing a surplus for export by 1800.[11] Although some companies were formed to own or lease a number of mills, the industry was dominated by small-scale partnerships and family businesses.

The hand process of paper-making was superseded by the Fourdrinier machine which formed paper into rolls by a continuous process. The quantity made by machine increased rapidly from its first commercial production in 1806, to surpass the quantity made by hand only 18 years later, and to make up 95% of the production by 1860.[12] The transition from skilled craft production to industrial production occurred within a rapidly expanding market so that a large number of separate and competitive owners survived with only a small reduction in the total number of mills. Although the numbers employed were still relatively small (an average of 35 per mill in 1851 compared to about 15 a century before) the composition of the workforce was changed as skilled adult male craftsmen were partly replaced by cheaper unskilled women and boys.[13]

Sawn timber

Unlike paper making, manual and mechanised methods of sawing timber coexisted for centuries. In the manual method of pit-sawing, logs were cut up by a pair of sawyers - one standing atop the log, the other in a pit beneath - using a long blade saw. Pit-sawing was mechanised simply by setting the familiar hand tool in a reciprocating frame through which the logs were guided, first by hand and later automatically.[14] Sawmills were developed in Europe from the twelfth and thirteenth centuries, made largely of wood and powered by men, animals, wind or water. They required considerable power to drive their thick sawblades through logs, but only limited and fluctuating power could be obtained from natural sources.[15] Productivity was raised only when greater power from steam engines or bigger and better designed water wheels and turbines were applied. Then the process was multiplied by setting several saw blades in one frame or by installing several sawing machines in one mill. It was also speeded up, a change which required the frame guides, power transmission, feed mechanism, log carriages and rails to be made of iron. Thinner saw blades were made from improved steel and circular saws, large enough for timber, were made by Brunel in 1805-08 and in the United States in 1814-20.[16]

In Britain, sawmilling was resisted by the guilds and was still difficult to introduce in the eighteenth century.[17] Even so, Britain's rapidly expanding urban and strategic needs could not be met from domestic timber resources so that timber was imported. The supplying regions had markedly different production methods. In the Baltic, timber was produced manually or in small primitive sawmills. By contrast, sawmills were in general use in North America throughout the eighteenth century and by its end a steam-driven mill in the United States was already sawing 7 cubic metres a day.[18]

Population, urbanisation and class struggle

The population of England and Wales increased from about 6.3 million in 1750 to 8.9 million by 1801, and then doubled to 17.9

million by 1851 as a result of an increase in the birthrate, a decrease in the death rate, and to a smaller extent the immigration of over one-half million Scots and Irish.[19] The new mode of agricultural production could not absorb the large surplus in the rural population so that wages for the employed rural labour became very low, while conditions for the unemployed landless labourers became desperate. Large numbers migrated to the cities. Whereas Britain had been predominantly rural in the time of Tasman, by the 1780's the population of London - the largest city in the world - had already reached about one million, and the industrial cities of the north were growing fast. Employment in the new factories was insufficient to absorb the redundant workers from craft and domestic production, as well as the natural increase in the urban population and the migration from the countryside. With extensive unemployment, conditions for those employed were grim, and in spite of the work of reformers and some legislation, little improvement was effected before the 1840's.[20]

The ruling classes of Britain only achieved structural change by exercising their legislative, judicial and military powers against the mass of the people. As the tempo of change increased and conditions for the majority worsened, so were objections repressed with increased severity and ancient civil rights suspended. The condition of the agricultural and industrial working classes became desperate after Waterloo (1815); unemployment was swelled by a quarter of a million discharged soldiers and sailors and by continual Irish immigration; the price of wheat was high due to tariffs and poor harvests; farmers fed their labourers three loaves a week to yield the labour that could not be nourished from their wages; poverty was endemic.[21] Agricultural and urban riots were widespread in 1816-17, as they had been around 1795, and were harshly suppressed by the Coercion Acts of 1817 that extinguished the rights of *habeas corpus*, political association and public assembly, prohibited societies for relief and reform, and crushed societies of agricultural workers.[22]

The composition of the ruling classes was changed by the rise of capitalism. In the seventeenth century, the ruling classes were made up of the large often aristocratic landowners, the gentry and the merchants. The benefits of power such as official, naval and military positions were arranged very much by patronage and the advantages of trade for entities like the East India Company were secured by monopolies and charters. The electoral franchise was restricted to property owners, but even so during the eighteenth century electoral boundaries became so obsolete and voting practices so corrupt that Parliamentary representation was largely controlled by a few individuals. These traditional arrangements inhibited the expansion of capitalism, which needed ready access to raw materials and markets, cheap food for its workers, efficient administration and honest government, and greater recognition of its urban interests. As the nineteenth century progressed the new interests of urban industrial capital gradually prevailed on all these issues.[23]

The rise of capitalism in Britain was violent, not only in terms of a legal and economic assault against the proletariat it created, but also criminally and individually. The mass population, often unemployed, existed in poverty in both country and town. Contemporary observers dwelt on the symptoms of ignorance, disease, drunkeness and violence, and the crimes and offences against the law that 'bred' in the slums of the cities. Offences against property, particularly larcenies, were very common; many of the offenders were both juvenile and habitual. The British courts provided the mechanism of social control, and the law - possibly the most savage legal code in Europe - was applied extensively.

AUSTRALIA

The problem of disposing of the many convicted became a pressing one for Britain after the American colonies declared their independence (1776) and ceased to be a dump to which convicts could be transported. Nova Scotia, Quebec and West Africa were tried or

surveyed as alternatives but considered unsuitable; Australia provided a remote solution to a pressing problem.

The founding of a settlement in Australia presented several other possible advantages to Britain: a secure base of benefit to the trade with China; the opportunity to deny the continent to France or Holland; and resources of flax and timber on Norfolk Island. Although there has been considerable debate about which advantage was the *most* important, it is enough to observe that the combination was sufficient in the eyes of the British government of the day.[24]

The importance of the timber objective requires some elaboration here. Britain's security and position in the world economy depended on her navy. Timber for ship construction, masts and spars, as well as flax for sails and rigging were continuously required as their service life was short due to decay, loss in action and storms, and in the case of masts to increasing brittleness with ageing. There was a desperate shortage of mast timber following the loss of the American colonies and the partial closure of the Baltic by Napoleon, and particularly so from 1803 when Napoleon assembled his army for the invasion of Britain. Britain's needs for these strategic supplies strongly influenced her internal and foreign policies.[25] Britain searched the world for supplies, but if she had held out any appreciable hope for flax and timber from the Australian colonies, inefficiencies and diverse practical difficulties were allowed to intervene. For example, Foveaux was able to plead shortage of labour as an excuse in 1808 for not completing an order for ships timbers sent from the Admiralty in 1802! As it seems that the Admiralty only wanted the timbers if they could be sent at reduced freight in ships returning empty, the timber supply advantage of the Australian settlement was hardly taken as of major or pressing importance at either end.[26]

The penal colony was established in New South Wales in 1788. It struggled to clear the land, grow food for itself and raise stock. Against the most unlikely odds, with inadequate tools and the most ill-assorted skills and people, it became self-sufficient,

built shelter, expanded and increased. The officers and officials who comprised the ruling class turned every opportunity to personal advantage, accumulated capital by trading, and land by favour and dealing. Expeditions and voyages were sent out to explore; Bass and Flinders discovered for the British that Van Diemen's land was an island. The French too sailed south, both D'Entrecasteux (1793) and Baudin (1802) landing in Van Diemen's Land. The latter's arrival in Sydney harbour prompted Governor King to make sure that Britain's claim to the island was established by settlement.

EUROPEAN SETTLEMENT OF VAN DIEMEN'S LAND

The possibility of the French claiming Van Diemen's Land certainly triggered the settlement, but the same mixture of penal with other objectives applied as in the founding of New South Wales, and the resources of timber were still considered. In a despatch to London, Governor King explained:

> My reasons for making this settlement are: the necessity there appears of preventing the French gaining a footing on the East side of these islands; to divide the convicts; to secure another place for procuring timber with any other natural production that may be discovered and found useful; the advantage that may be obtained by raising grain; and to promote a seal fishery.[27]

King placed Lieutenant Bowen in charge and instructed him: firstly, to clear the land, cultivate the soil and sow the seeds he was given; secondly to survey the opportunities for the production of wheat, barley, flax and cotton; and thirdly:

> You will also inform me whether the general timber of the country is fit for the purposes of being sent to England for the construction of the King's ships, particularizing as far as you are able, the different species, length of trunk and diameter; also whether it grows mostly crooked or strait, and notice the facility of getting on board ships.[28]

Three settlements were made in Van Diemen's Land in 1803-4. Firstly, a small group (40 soldiers, 63 convicts and 3 free settlers) under Lt Bowen landed on the banks of the Derwent River in September

1803. Secondly, a large party under Col Collins (66 officials and marines, 281 convicts, 13 free settlers and 73 women and children), which had come from Britain and unsuccessfully attempted a settlement at Port Phillip, arrived on the Derwent in February 1804. Thirdly, Lt-Col Patterson was sent from Port Jackson with a small party (72 soldiers and officials and 74 convicts) to found an independent settlement at Port Dalrymple on the Tamar, and landed there in November 1804.

These tiny groups of Europeans broke the isolation of the island for ever. Their presence was the outcome of remote changes, intimately part of the rise of capitalism within Britain and of the competition between European nations for dominance of the world economy. Divided by class and status, soldier and settler, rich and poor, bond and free, they carried the capitalist world-economy to its furthest point.

The new settlements organised the production of their food and shelter in two structures - the prison farm mode and the small business mode. In the former, the state organised the production of food, timber and other necessities by providing the means of production - land, tools, seeds and animals - and forcibly extracting labour from the convicts. In the latter, the state also provided land and assigned convicts to labour for the settlers. Initially, the state also granted or loaned some of the means of production and provided rations to the settlers until they could support themselves.

The struggle for survival was acute in the first six years due not only to the difficulty of the task but also to the ineptitude of the initial planning and the failure of subsequent supply. The materials with which Collins had been outfitted in Britain were hopeless for the task; the axes bent; the iron was poor; the seeds were dead; even much of his ammunition was the wrong size for his rifles. Most of his convicts were labourers and few had agricultural skills; those with trades were mostly inappropriate and several were infirm. Bowen's party was so useless in fact that Collins sent them back to Sydney.[29]

In spite of all, some land was cleared and crops sown with viable seed. Food production was organised by the prison-farm mode on a government farm and supplemented by the small business mode on the farms of the few free settlers. Until farming could make the settlements self-sufficient they were dependent on supplies from elsewhere, which never arrived in sufficient quantities.[30] The shortage of food became so desperate in 1806 that half the seed grain had to be eaten, and the convicts were so weakened by reduced rations that their working day was reduced to three hours.[31]

The independent settlers were granted land, assigned convict labour and temporarily provided with rations from the government stores - the Commissariat - until they could bring their land into production. By 1807 some of these farms had surplus grain but not enough to relieve the shortage.[32]

The shortage was aggravated in 1807-08 when 554 people, including 329 women and children, were sent from Norfolk Island to the Derwent, which effectively doubled the settlement but did little to increase its resources.[33] Most of the men were ex-convicts who were granted 12-20 hectares of land each on which to secure their subsistence. A few succeeded, many bartered their land for rum.[34]

The failure of the prison farm mode of production to produce enough food led to changes in the methods and relations of production and in the administration of the state. Kangaroos were plentiful and could be hunted successfully by those with dogs who had acquired skills in the bush. The Commissariat purchased kangaroo meat first in an attempt to counter scurvy and subsequently to provide a ration.[35] Many of the convicts hunted for their own subsistence and some produced a surplus which they were not allowed to sell directly to the Commissariat. West records that:-

> The officers allowed servants, sent them to the woods, and sold their spoil to the government. Considerable profits were made by the more successful: the Commissariat allowed 1s 6d per lb.[$0.07 per kg], and the foundations of some fortunes were laid by persons whose servants were faithful and expert. A marine assisted by two convicts, delivered 1 000 lbs [454 kg] of kangaroo meat per month, and continued in this occupation for several years.[36]

It is not clear how the labour of these convicts was extracted - by coercion or reward - but it is clear that a considerable part of the value accrued not to them but to individuals of the official ruling class who accumulated it as money capital.

The food shortages were overcome within five years and convict discipline eventually restored, yet this brief episode shows several features of the linkages between the convict system and the origins of local capitalism:

- Labour was not very productive in the prison-farm mode.
- Labour could create surplus values in the small business mode.
- The Commissariat enabled surplus values to be realised as money which could be accumulated within Van Diemen's Land by those who had command over labour.
- The relations between the convicts and their rulers altered and some of the convict hunters acquired skills in bush living which, it was said '... laid the foundation of those lawless habits [bush-ranging] which afterwards brought the colony to the verge of ruin...'[37]

All these features bore on the production of timber within the convict system.

TIMBER USE AND PRODUCTION METHODS

Wood was a major raw material for the colony for most of the nineteenth century. Shelter for the initial settlements was provided in simple huts of bush poles with wattle and daub walls and thatched or shingle roofs. Although sawn timber and brick production were early convict activities, housing remained simple so that by 1851 half the houses in the colony were still wooden. At least until the 1880's wood was the main fuel not only for domestic heating and cooking, but for almost the entire range of colonial production.[38] Wooden shipbuilding started in 1813 and flourished by supplying excellent whaling boats, later small colonial sailing vessels, and eventually ships that could be sailed to Britain.[39]

Wooden barrels were made to export whale oil, and boxes were made to package fruit, jams and vegetables.

In the rural economy, wood provided fencing, gates, yards, huts, sheds, bridges and even slab roads. A considerable proportion of the rural labour must have been engaged in cutting and fashioning it, yet this was not the work described in the early records. We too will by-pass farm work and only consider timber produced for exchange or distant use.

The production process was primitive, as only hand tools were used to fell the trees, cut them into logs, and fashion the timber. Palings and shingles were split at the stump with wedges, mauls and drawn knives. For sawn timber, logs from three or four trees were manhandled, or sometimes snigged by a bullock to a sawpit where they were sawn by a pair of sawyers - one atop the log, one in the pit beneath. Beams and heavy timbers were hewn with broad axes at the stump.

Rough tracks were made over which the heavy 'green' timber was carried by people or hauled on sleds or carts. Roads were few and land cartage expensive, but the indented coast provided plenty of points at which the timber could be loaded on to shallow-drafted coastal vessels.[40] Most timber was unloaded and stored in timber yards in Hobart and Launceston where the flitches were resawn to required sizes.

THE PRISON FARM MODE OF TIMBER PRODUCTION

The prison farm mode of production was organised to meet five requirements of changing relative importance. Firstly, the state in Van Diemen's Land needed the products of the convicts' labour, initially to sustain and shelter the colony and later to build public works and the infrastructure for widespread production. Secondly, the state needed forms of secondary punishment (ie those imposed in addition to transportation) to control the convicts within Van

Diemen's Land. Thirdly, the British ruling classes needed the deterrent terror of transportation to maintain its control over metropolitan society. Fourthly, Britain sought to reduce the cost of keeping the convicts. Fifthly, the interplay of these requirements was modified by the needs of the developing capitalist mode of production within Van Diemen's Land.

At the start of the settlement, timber was needed for public building. Saw pits, known as the King's Pits, were set up at the source of Guy Fawkes Rivulet about five kilometres from the centre of Hobart.[41] The timber was dragged on a rough cart by the 'Timber Carriage Gang' to a timber yard in Hobart where it was stored and resawn to smaller dimensions.[42] Production was limited by the number of sawyers and Collins reported in 1808 that:

> I have sustained a great loss in this useful class of People by Desertions, which it was impossible to prevent, by Deaths, and by many having become free through having served their Terms of Transportation.[43]

He was forced by the shortage of convict labour to hire some free wage-labourers to complete an urgently needed public store.

When the King's Pits site became exhausted in 1819, a new form of organisation - the 'sawing station' - was developed. Sawing stations were small outposts set up near stands of good timber, close to water for transport, and generally in isolated locations with some degree of natural imprisonment. Convicts appear to have been allocated to sawing stations if they were already skilled sawyers, when they could not be assigned, or as one of the lesser forms of punishment.

The first sawing station was set up in Northwest Bay on the shores of D'Entrecasteaux Channel about 32 kilometres by water south from Hobart. In 1820 it consisted of an emancipist overseer, seven men and six to eight pairs of sawyers. The logs were almost certainly dragged manually to the sawpits and the timber carried on human backs to the beach. Large sawn pieces were taken to the Hobart timber yard in the government brig, but were cut into smaller sizes if they were to be taken by boat.[44] The work of resawing and stacking the timber in the yard became the job of those in the Hobart Town goal.

By 1826, the main government sawing station was at Birch's Bay, some 16 kilometres further south. It consisted of a Superintendent, a free overseer, 30 sawyers, tradesmen to maintain the tools, boatmen, labourers to haul logs and carry timber, and six signal men - 62 men altogether.[45] At first, very solidly constructed pits were built at the central site. No animals were employed and it took enormous effort to roll the logs by hand from where they were cut to the pits.[46]

This system soon cut out the timber round the settlement and a new system was devised. Rather than concentrate sawing at a central site, temporary lightly constructed pits were built. These could be made in 2-3 hours, near 3-6 trees that would last a pair of sawyers at least 3-4 weeks.

To work a bigger area with sawyers scattered through the bush raised the problems of transporting the sawn timber, security and supervision. Temporary jetties were required and cutting was kept within 1.6 kilometres of them. The task of manually carrying out the sawn timber was considerable and bullocks were introduced eventually - four were in use in 1828. To prevent timber lying in the bush or at the jetty from being stolen, the public was prohibited from going to Birch's Bay.[47] However, unauthorised visits were made and the Superintendent reported boats which '... secretly bring the men supplies, which is a great temptation to send their timber surreptitiously away ...'[48] The dispersion of the sawyers drastically increased the problems of supervision. To see that the men worked when out of sight, the Superintendent measured the timber cut at each pit. Even so '... something more than coercion [was a necessity] to keep men in an orderly and industrious behaviour in so remote a situation, so remote from inspection ...', and it was recommended that the sawyers be put on task work.[49]

Under the new system, a compulsory task, of 1.4 cubic metres for able hands and 1.1 for the less expert, was set each week after which the sawyers were allowed to produce a surplus to be bought by the Government. This was thought to give a substantial 'encouragement'

and provide the potentially useful punishment of being able to '... turn men of bad habits out of the Sawing Gang ...'. It was thought that it might also encourage labourers to train as sawyers and possibly reveal some hidden talents as men were reluctant to admit to being sawyers in case they were held in sawing stations instead of being assigned to settlers.[50] The labourers were allowed to split shingles on their own account during their free time on Saturday afternoons. Production records for 1827-1829 reveal that about one-third of the timber cut was on the men's own account (Table 2.1).

Table 2.1

Timber production Birch's Bay 1827-1829 [51]

Period	Cut by men in Government time (m 000)	Cut by men in their own time	
		Quantity (m 000)	Proportion of total (%)
1827	663	287	30
1828	560	317	36
1829 (6 months)	268	12	4
Total	1,491	616	29

Accounts for the settlement in 1828 appear to show a profit of $225, but as an amount of $790 was credited to a mysterious difference between measurements at Birch's Bay and Hobart Town, it seems more probable that the station ran at a loss.[52] The loss would have been far worse had not the government made a profit of $280 from the 'indulgence' of allowing the convicts to work on their own account, for it sold their wood at an 18-30% mark-up.

Sawing stations were set up at many different places and times. They varied from the small temporary camps that provided timber for local works to more substantial establishments. A further example of the latter was the sawing station started at South Port in 1841. The Principal Superintendent of Convicts proposed an establishment consisting of 9 pairs of sawyers, 2 splitters, 16 labourers, 2 tradesmen to maintain the tools, 2 ticket-of-leave men

to manage the station and a free overseer. The site chosen was near good timber, fresh water and a police station. The Governor approved the station and placed it under the inspection of the local police magistrate.[53] It was then found difficult to recruit a suitable overseer - a common colonial problem. The convicts at South Port were required to work set hours during the week but were permitted to work on Saturday afternoons on their own account. In the first cargo, the quality of the timber cut for the government was so bad that the overseer was threatened with dismissal and the convicts were prohibited from selling any more timber on their own account until they had replaced some bad joists. In the second cargo, the sawyers forwarded 61 cubic metres cut on the government account during the working week and 75 cubic metres cut on their own account - ostensibly on Saturday afternoons![54] Even allowing that the sawyers worked longer hours for themselves than allowed and that the supervisor was lax, the productivity of labour in the free hours appears to have been several - perhaps 3 to 10 - times greater than that when coerced.

In essence the prison farm mode of production relied on punishment and the threat of punishment to extract labour but, like other systems of coerced labour, in general obtained only slow and inefficient work.[55]

The arrangements at Birch's Bay and South Port were not uncommon and many convicts were simultaneously prisoners and proletarians. This offered several advantages to the settlers and the state. In the early years of the colony, the government saved costs by leaving convicts to find their own shelter, either by building huts on town allotments or by purchasing it where they could. Many were forced into a market for their part-time labour, which was very quickly regulated by the state to lower what Collins described as an '... unjust and enormous price for the work performed in their extra time ...'.[56] Convicts supplied additional labour and skills in times of shortage. Being recruited and sustained by the government, the convict labour force did not have to bear the costs of its own reproduction. Its labour power could be purchased cheaply, which

was not only an advantage in itself but also a means of keeping down the wages of free labourers.

PUNISHMENT AND DETERRENCE

Punishment within Van Diemen's Land functioned to extract labour from the convicts, maintain official control over colonial society, and provide the deterrent that the ruling class in Britain needed.

Maintaining the class structure of colonial society was a major part of the state's activity during the first half of the nineteenth century. At one extreme were a few wealthy landholders and merchants, at the other the labouring majority of convicts, emancipists and free labourers, with a limited number of farmers, shopkeepers, artisans, and successful emancipists in between. Unrestricted free immigration did not start until 1816 and comprised less than one-third of the arrivals between 1820 and 1849. In 1820 convicts under sentence comprised over half (54%) of the population, and this proportion had fallen to only slightly under one-third (29%) by 1851.[57] Convicts, emancipists and those of convict origins thus comprised a good three-quarters of the population for the entire period. The state controlled the conflicts inherent in this social structure through the imposition of punishments by the legal system.

Britain revised the policy for her Australian colonies periodically. A major inquiry was conducted by Commissioner Bigge who visited both New South Wales and Van Diemen's Land in 1819-1820.[58] The primacy of the penal objective was clearly spelt out in his instructions, yet had to be balanced by the costs, and these he sought to reduce by decreasing the numbers of convicts employed on public works in favour of assignment.[59] To maintain the deterrent value of transportation, he recommended measures to increase punishment and decrease the economic and social opportunities of convicts after the expiry of their sentences.[60] He recommended strict discipline for assignees, harsh punishments for infringements, and new penal stations in which these could be applied with severity and efficiency.

The only penal station to which convicts could be sent from Van Diemen's Land was at Newcastle in New South Wales. As the numbers of convicts increased rapidly after 1817, when Britain commenced sending convict ships direct to Van Diemen's Land, a more convenient penal station was sought. In Van Diemen's Land, three penal stations were operated:- Macquarie Harbour (1821-32), Maria Island (1825-32), and Port Arthur (1830-77), which had several outstations on Tasman's Peninsular. In each of these the heavy labour required to produce timber manually was incorporated into the regimen of punishment.

MACQUARIE HARBOUR

Macquarie Harbour, in the south-west of Van Diemen's Land, became known to Europeans after the redoubtable seaman James Kelly sailed there in 1815. He reported the extensive stands of Huon Pine that grew to the waters edge, the isolated location and the narrow shallow entrance from the sea.[61] Huon Pine was known to be a superb ship-building timber, light enough to float and outstandingly durable against marine decay. It was highly prized for building whale boats and ships and was also ideal for furniture and joinery. Shipments of logs to Hobart commenced in 1816.[62]

Macquarie Harbour was an attractive site for a penal station to Governor Sorell. It was very remote and the only access through the narrow channel from the sea could be easily guarded. It also offered the opportunity of producing Huon Pine timber which Sorell intended for use in Van Diemen's Land. He had to send a carefully worded despatch to London to explain his purpose in this respect, particularly in light of his inability to supply suitable timber to two naval supply vessels sent explicitly from Britain.[63]

The first party of 110 soldiers and convicts was sent to Macquarie Harbour in 1821 and was increased in subsequent shipments. Between 200 and a little over 300 convicts were kept there until it closed in 1832.

The convicts were treated with the most severe legal violence at best and barbarity at worst. They were subjected to constant hard labour on little rations and kept in terrible conditions. Logging and sawing provided most of the hard labour. The quaker, James Backhouse, visited Macquarie Harbour in 1832 and described the logging operations:

> In order to get felled timber to the water, a way had to be cleared, and to be formed with logs and branches; over this straight trunks of trees were laid in the manner of slips or skids, used in the launching of ships. Upon these the timber was rolled by the prisoners sometimes to a great distance. These roads were termed Pine roads... Except sometimes as a punishment, the men were not in irons, for if they had been, they could not have performed their work.[64]

The logs were formed into rafts and floated down the Harbour to the depot, and:

> In this service, life was sometimes lost; and the miserable workmen, diseased and weakened by hunger, while performing these tasks, often passed hours in the water.[65]

Under the administration of Governor Arthur (1824-36), all the conditions and punishments by which the convicts were controlled and worked were revised, and welded into a comprehensive system of management, discipline and punishment. A hierarchy of progressive rewards for obedient behaviour and progressive punishments for disobedient behaviour was precisely defined and by careful recording and supervision was efficiently administered. Even in Macquarie Harbour a hierarchy of occupations was established, some being taught the trades of shipbuilding, carpentry and shoe making, while others did the hard labour of logging, were flogged, or were confined solitarily.

Two very different views of the operation of Macquarie Harbour have been developed: that it was a commercial success with a perfect record for rehabilitation and reform, and that it was a barbarous example of man's inhumanity to man.

The Commandants saw the settlement as a place where many of the convicts were successfully reformed by hard labour, severe discipline, and from learning new skills. Certainly Arthur believed

capacity and difficult access wrote in 1827 that '... I should never think of recommending the abandonment of McQuarrie [*sic*] Harbour ...'[66] Edwards has examined the extant production and revenue figures and attempted to assess whether the claim to commercial success was valid. Although the data were very limited, Edwards considers that if the level of costs were fairly constant, then the settlement must have yielded a handsome profit, particularly so if the very conservative values given to sawn timber ($8.82 per cubic metre) are increased to more realistic values (say $28.20 per cubic metre).[67]

John West, clergyman and vigorous opponent of transportation, took quite an opposite view in writing his history in 1853:-

> The name of Macquarie Harbour is associated exclusively with remembrance of inexpressible depravity, degredation and woe... Sacred to the genius of torture, nature concurred with the objects of its separation from the rest of the world; to exhibit some notion of perfect misery. There man lost the aspect, and the heart of man![68]

The most telling evidence lies in the statistics. From 1822 to 1832 with some 250-300 convicts kept at Macquarie Harbour, there were 85 deaths of which 35 were tabulated as being from natural causes and 50 occurred violently by drowning, accidents in felling timber, shooting or murder by other convicts. The punishment records show:

Table 2.2

Punishment records for Macquarie Harbour 1826-31[69]

Period	Annual averages (numbers)			
	Prisoners held	Prisoners sentenced	Lashes inflicted	Days in solitary confinement
1826-28	312	218	6280	5
1829-31	255	56	973	209

The prisoners view is represented by the 112 who absconded even though death was known to be almost certain in the bush. Some were recaptured, 62 perished in the bush, and 9 were eaten by their companions.

Such was the manner in which timber was produced at the extremity of, though still within and for the world capitalist system.

MARIA ISLAND

Governor Arthur expanded the punishment capacity of the convict system by establishing a second penal station on Maria island off the east coast in 1825. This station was more accessible but less naturally secure than Macquarie Harbour, and the general level of punishment was between that at the Hobart Town gaol and Macquarie Harbour. Many farming and manufacturing activities as well as sawing and splitting were undertaken at Maria Island.[70] The limited financial evidence that Edwards was able to locate showed that Maria Island was more profitable than Macquarie Harbour.[71]

PORT ARTHUR

In December 1827, Stewarts Bay on Tasman Peninsular was explored and its sheltered anchorage and good stands of timber reported to Governor Arthur. A fortnight later, two of the sawpits at Birch's Bay were destroyed by fire.[72] With the advance of settlement southwards, the visits of unauthorised boats, and the dispersed method of cutting that had been adopted there, this station was losing its natural security, and an urgent survey was made of Stewarts Bay, renamed Port Arthur, as an alternative site. It was decided to commence a third penal station and instructions were issued to move the Birch's Bay sawing station. These were implemented in 1830.[73] As the cost of maintaining three separate penal stations was of obvious concern, and possibly as the entrance to Macquarie Harbour may have become more difficult to negotiate (due to shifting sand bars), Arthur decided to concentrate his punishment facilities and transferred both the Macquarie Harbour and Maria

Island stations to Port Arthur in 1832. Port Arthur was by far the largest and longest-lasting of the three penal stations, not being closed until 1877. It was here that the system of punishment was refined and bureaucratised to ensure its perfect application. Minutely detailed regulations governed every activity and were enforced without remit or partiality. Dispassionate efficiency and severity replaced the sometimes haphazard and autocratic application of punishment in the other stations and '... carried the vengeance of the law to the limits of human endurance ...'[74]

Timber production was an essential occupation at Port Arthur. The logs were cut in the bush and carried along the shore to be sawn at the settlement. The mode of logging was described by a visitor in 1837:

> The system formerly observed at Macquarie Harbour and Maria Island is still continued here, both as a matter of conveyance and one of the most severe duties the prisoner is put to perform, the carrying of large logs from the interior and almost impassible parts of the woods to the beach and again landing and transporting them through the water to the dry ground and dock yard. In this way we saw a gang of thirty men stoop down with the overseer at the head and shoulder a log many tons in weight until they carried it to its destination.... Self preservation compels every one to do his best to support the immense weight, which, notwithstanding, he must be strongly impressed within himself would crush him at once to death, whatever his efforts might be unless his companions in like manner did their part. This is considered the most severe labour on the settlement and every offender who is sent to it, be his offence what it may, is subject to it for some time as a preliminary ordeal which he must of necessity go through. It has a wonderful effect in subduing refactory and turbulent spirits and is much dreaded by all.[75]

The sale of the timber produced was an important means of offsetting the costs of the penal station. To maintain the punishment of carrying the logs, no animals were used in snigging, but to improve sawing production and concentrate the scattered sawyers, a second-hand sawmill was purchased in 1835. It had originally been constructed for horses but had ironwork added for water power. The saw was a circular one. It is uncertain whether this equipment was ever successfully operated at Port Arthur. Hand sawing was certainly continued and the annual return for 1846, for

example, reports that: '...a considerable number of the convicts are engaged in procuring timber for the sawyers, of whom about 30 pairs are generally employed.'[76] It was not until 1864 that a substantial sawmill with vertical and circular saws was constructed at the main settlement and bullocks provided for snigging. At that date the numbers of convicts at Port Arthur were declining and ageing, the last convict transports having arrived ten years before.[77]

The timber was distributed in part for use at Port Arthur, in part for colonial public works, and in part for sale to reduce the cost of running the prison.[78]

CAPITALISM AND THE PRISON FARM MODE

In this chapter, we have seen how timber was first produced in Van Diemen's Land. From the world-historic perspective, this regional development was a functional part of the rise of competitive capitalism and Britain's struggle for hegemony. It was part of the development of a new stage whose salient features were industrialisation, urbanisation, the creation of a proletariat and so forth.

Although the major determinants of development in Van Diemen's Land operated at a world-scale, we have had to recognise the specific relations of production that operated in the prison farm mode in order to study timber production. Notably, the features of this regional structure were *not* those that characterised the new stage on a world-scale.

Timber was cut in the sawing and punishment stations in ways which contributed to the primary accumulation of infrastructure and money capital in Van Diemen's Land. This even extended to permitting the convicts to become part-time proletarians. We saw that a three-way articulation resulted between Britain, characterised by ascendant capitalism, prison farm production in Van Diemen's Land, and the emerging structures of colonial capitalism. Prison farm

production was not an efficient organisation for local production. Hence, we can observe that development within Van Diemen's Land was partially inhibited by its articulation with Britain.

The state functioned most obviously for social repression in Britain and the coercion of labour in the colony, in ways that can be explained in terms of the theory that the state acts as the instrument of the ruling class. It also functioned to support the accumulation of capital within Van Diemen's Land by supplying part of the means of production and labour. The operation of the state's Commissariat was critical to the realisation of capital in the early stages of settlement. Such actions are more readily explained in terms of the theory that the state acts to meet the logical needs of capital. Overall the convict system never became self-sufficient and continuous expenditure by Britain was an important source of capital inflow.[79] As we have seen, the operations of the state changed from time to time according to shifts in the links between Britain and the structures of colonial production.

Although production in the prison farm mode contributed to the primary accumulation of infrastructure and money capital within Van Diemen's Land, the rate at which further capital could be accumulated was severely limited by the small size of the internal market, restrictions on external trade, the limited capital imported through the Commissariat, and the small number and low productivity of the convicts. In the next chapter, we shall consider how a structural change in production, the removal of constraints, and the export of commodities led to the sort of rapid economic growth not possible in the early system.

Chapter 3

CAPITALIST PRODUCTION AND TRADE IN TIMBER, 1820 - 1856

The constraints to the accumulation of capital within the prison settlements of Van Diemen's Land, discussed in the previous chapter were relaxed from 1813. A thriving export trade was built up and new structures of production under capitalist relations established. This structural development occurred *concurrently* with the expansion of the convict system - peak numbers of convicts being received in 1842-46 and 1850-52 - but led to the creation of a predominantly *capitalist* society. The transition was marked by social, political, legal, administrative and ideological changes which culminated in the cessation of transportation in 1853 and the achievement of self-government in 1856.

In this chapter, we will consider the formation of classes in the dominant agricultural and pastoral sectors, the key place taken by commercial capital, the manner in which the production of timber was organised under capitalist relations, and the complex interactions between the several sectors, structures of production and classes.

EXPORT TRADE

The development of international trade from the early settlements was inhibited by the mercantilist policies of the East India Company Act and by tariff and shipping regulations of the British and New South Wales governments.[1] Trade from Van Diemen's Land was further disadvantaged as goods had to be transhipped in Sydney and regulations to prevent convicts escaping forbade the construction of decked vessels longer than six metres.[2] Colonial markets were not constrained and, although limited by the same factors that applied within Van Diemen's Land, provided profitable outlets for cereals and meat from 1815 on.[3]

In 1812, the settlements at Port Dalrymple and Hobart were amalgamated into a single administration. Clearly sensible on administrative grounds alone, once an overland route had been found (1809) amalgamation strengthened the state administration and allowed commerce to develop. The few merchants petitioned British authorities to open the ports to international shipping, and in 1813 restrictions were lifted. New merchant businesses which imported goods directly from England and arranged exports were quickly established.[4] Trade flourished and the ascension of capitalist interests over the old mercantilist interests, in both Britain and the colonies, was marked by the removal of the restrictions on the size of vessels (1819) and their destination (1822).[5]

Seal skins and whale oil were the first commodities that could be produced readily for international trade from resources that were abundant around the coast and islands. Seal skins were produced by the notoriously wild sealers, and the Aboriginal women they obtained by exchange or capture, in a structure that contained elements of both slave and domestic relations. These women appear to have been the only Aborigines from Van Diemen's Land to have entered the production processes of world capitalism and it is only in the descendants of the offspring of their unions with the sealers that any genetic trace of the entire race remains.[6] Whale oil was produced in simple stations set up by merchants round the coast by free (not convict) labour under capitalist relations.

Production was expanded quickly but carried to the point of destroying the resources. Sealing and bay whaling for the black whale were virtually finished by 1840, and although deep sea whaling for the sperm whale was then conducted it too declined eventually.[7] Although whales and seals were potentially renewable resources that could have sustained a perpetual yield, their exploitation under competitive capitalism resulted in their virtual extinction. It may be noted from this example as a forerunner of that other potentially renewable natural resource - timber - that the resource was a common in which *short-term individual* competitive interests were served by continual exploitation without remit.

Further, the amount of fixed capital invested was low and could be amortised over very short periods or readily transferred to the production of other commodities. Thus the conservation of the natural resource was *not* necessary for the conservation of capital and although enlightened officials deplored the destruction and perceived the measures necessary for conservation, the state took no action.

The establishment of wool as the major export staple, and the removal of trade barriers in 1822-26, are legendary topics in Australian histories.[8] The response in Van Diemen's Land was rapid. In 1820, Lt-Governor Sorell imported Merino lamb rams from New South Wales and distributed them to settlers with additional allocations of land.[9] Private imports of Merinos and Saxons soon followed.[10] The initial (1820) sales of poor quality wool brought poor prices on the London market but husbandry, processing and packaging were improved, the effects of the better stock became felt, freight rates fell and exports increased dramatically - even briefly exceeding those from New South Wales.[11]

LAND OWNERSHIP AND CLASS FORMATION

Within the internal economy of the penal settlements, only small farms operating in the small business mode, but assisted with convict-labour, were established. The state made land grants of 10-50 hectares to farmers, officers, soldiers and marines who left the service, and emancipists from Norfolk Island. Small grants were also made to ex-convicts to enable them to subsist as peasants. In 1809, the average holding was only 24 hectares at the Derwent and 74 hectares at Port Dalrymple. Although the officers and officials of the ruling class had taken 46% of the land granted, their individual holdings averaged only a modest 50 hectares at the Derwent.[12]

Export opportunities permitted a new structure of large-scale production to be organised under competitive capitalist relations. Holders of large estates - the gentry - owned the land, stock, work animals, seed and implements, which were worked by a rural prolet-

ariat of landless labourers and, in the early stages, by assigned convicts. The division into large-scale pastoral production and small-scale agriculture was not as clear cut as on the mainland and both structures competed in producing the major commodities of wheat, meat and wool.

Possession of land was a key to expanding production in both structures and this was provided by the state in grants, sales and leases. From 1812 much larger grants, of 400-1200 hectares, were made to those with influence.[13] Grants were also made to the new settlers who arrived in increasing numbers in the 1820's. From 1825, regulations were introduced to foster a class of capitalist landowners - the gentry - and form a rural workforce by excluding labourers from land. Grants of between 128 and 1037 hectares were provided to settlers with over $1000 in proportion to their capital, and small grants to those with little capital were discontinued. Although the regulations were applied very loosely and many grants were made to those with more limited capital, they did inhibit the development of a peasantry.[14] Additional grants were made to settlers who developed their initial grants, or in recognition of public services or position.[15]

Table 3.1

Area of land granted and sold, 1804 - 1859[16]

(hectares)

Period	Granted to		Sold
	Individuals	Van Diemen's Land Co.	
1804-19	28,226		
1820-29	481,729		28,668
1830-39	181,048	148,267	109,369
1840-49	4,706		101,835
1850-59	2,918		95,789

Not only did the area occupied by grant and lease increase exponentially between 1813 and 1831, but the pattern of land ownership became strongly differentiated. A few capitalist producers were able to amass very large estates due to the cumulative mechanism

of the granting system and by buying out small farmers.[17] By contrast, these small business producers with few reserves often had to sell out when they could not withstand seasonal fluctuations, the erratic or restricted markets for wheat and meat, attacks by bushrangers and Aborigines, or the destruction of crops by wandering stock.[18]

The labour to expand production was initially supplied by the convict system but later by free immigrant labour and those dispossessed from farming or petty grazing.

The state assigned convicts to individual settlers who had to feed, clothe and shelter them, relieving the British government of expense. Their labour power was the temporary property of the settler extracted both by inducement and coercion.[19] To meet the British requirements for deterrence and his own for control over a lawless population, Lt-Governor Arthur established a network of stipendiary police magistrates, local justices recruited from the gentry, and constables, backed up by the registration of overseers on the sheep runs, close control of movement, and detailed regulation. The slightest infringements by assigned convicts were punished with flogging, periods in public works gangs, chain gangs, or at Port Arthur. As inducement, good reports from a master could procure a conditional remittance of sentence under a 'ticket-of-leave' which allowed a convict to become a proletarian but restricted freedom of movement and employment.[20]

The nature of the early labour force limited production in several ways. The majority of convicts came from impoverished urban backgrounds and did not have rural skills. The labour of assigned convicts although cheap, was unproductive and unreliable, while that of emancipists embittered by 'the system' was often little better. Moreover the rural labour force could only reproduce itself by continued transportation as few females were transported.[21] These difficulties were countered by immigration after 1816 when the colony was opened to general settlement. Six hundred free settlers arrived in family groups in 1822 and by 1827 births exceeded deaths.

Although the reproduction of the population was assured, more deliberate measures were needed to create a capitalist class structure. In 1831 the imperial Rippon regulations required land to be sold at auction, rather than granted, in order to encourage closer settlement and raise revenue to fund the transfer of British pauper families to the colonial workforce.[22] Although immigration and natural increase combined with the convict system created an abundant proletariat, two competing structures of production - Aboriginal and petty squatting - had to be destroyed before capitalist production could be fully established.

The Aboriginal structure of production was destroyed as sheep replaced kangaroos on the grassy plains and the people were murdered, raped and diseased with the spread of settlement. The Aborigines were far from passive victims and endeavoured to subsist by negotiating for or plundering rations from the stockmen's huts. Governments in Britain, New South Wales and Van Diemen's Land issued policy statements for their protection, but apparent concern did not lead to effective action. Pressure from the settlers led Governor Arthur to empower armed settlers to join the military in driving the Aborigines from the settled districts, treating them as open enemies. The accelerated killing during this 'Great Black War' left few alive and in 1831, when Robinson gathered the remnants of the tribes, there were only 190 left.[23]

The unalienated 'Waste Lands' provided a common accessible to wealthy grazier and emancipist alike, on which the latter could thrive by grazing cattle and sheep in the petty commodity production of meat and wool. To maintain accumulation in the capitalist mode, these ex-convicts had to be separated from land and recruited into the proletariat. Doubtless stock were frequently thieved from farmers and graziers, and doubtless some ex-convicts associated with bush-rangers; both of which provided landowners with issues for righteous lobbying. They pressed the Government, complaining that 'unauthorised' occupation of Crown land offered facilities for stock stealing and harbour for absconding convicts, and emphasising:

> ... the injurious way the system operates against the proper diffusion of agricultural labour in the colony by presenting a trifold inducement to free and Ticket of leave men to become *Occupiers of Land* and *possessors of stock* rather than lead the more industrious and useful life of hired servants in regular employ.[24]

The Colonial Treasurer objected that less land could be sold when grazing was free and regulations were introduced in 1828 to enable 'persons of good character' to tender a minimum of $0.05 per hectare for annually renewable leases. Payment was poor and in 1833 tenders were replaced by auctions, which served to cement the position of established landowners against intruders but failed to increase revenue or reduce unauthorised occupation. In 1843, when sheep numbers had doubled to 1.4 million, tenders for five-year periods were introduced. Established graziers took up licences to keep smaller men out and revenue trebled. Throughout this period only about 81,000 hectares were leased - far less than the area occupied.[25] In 1847 - when sheep numbers had increased to 1.8 million - licences for 202-2025 hectares could be obtained at a fee of $0.05 per hectare for ten year periods, and compensation was allowed for fences and buildings if a licence area was resumed for selection. With security of tenure and protection for capital improvements, graziers took out licences over some 600,000 hectares which virtually ended unauthorised occupation. This legitimated the settlers' use of the Waste Lands, protected their capital and saved them having to purchase new land at higher sale prices. The leasing system was thus adapted to meet the needs of colonial capitalists in the face of both a competing mode of production and changes in the grant and sale system brought about by imperial interests.

The rapid expansion of wool production attracted not only the capital brought by enterprising settlers but also large-scale company investment. The first and largest, the Van Diemen's Land Company, was chartered in London in 1825. The company's first settlement was made at Circular Head in the previously unsettled north-west of the island in 1826. After heroic explorations and lengthy negotiations the company obtained grants to 148,267 hectares in 1831 which it worked with indentured, convict and later free labour.[26] The

company spent $0.5 million on development in its first fifteen years, but many of its ventures were unsuccessful and it turned away from capitalist production to tenant farming and eventually to land sales.[27]

So far we have considered only the formation of the proletariat within the island, yet the emigration of both labour and capital toward more attractive conditions on the mainland has been a continuing feature of Tasmanian development.[28] Batman's settlement of Port Philip in 1835, when the economy of Van Diemen's Land was depressed, led to substantial emigration.[29] The rush to find Victorian gold imposed a far more serious drain on the labour force - the adult male population of Van Diemen's land was halved by the end of 1852 - which seriously disrupted production.[30] In the critical shortage, employers competed to cajole workers to their service or were forced to pay higher wages. To retain population, the state offered, in 1851, an inducement to land purchasers in the form of the 'quiet enjoyment' for ten years of an area ten times that of any land purchased. In two years this '... ill-conceived policy ... of wasteful liberality ...' diverted 405,000 hectares of the best remaining land to grazing rather than to more labour-intensive agriculture, but did little to retain population.[31] More forceful measures followed. In 1854, the Legislative Council passed the most coercive *Master and Servant Act* in the Australian colonies to bind free labourers to their masters.[32] The Act was energetically applied by the magistrates who exercised a key role in the daily reproduction of social relations. Magistrates could order the flogging of assigned convicts or their relegation to a chain gang; they could issue the passes required for a man on ticket-of-leave to move from one part of the island to another; they could punish free labour under the *Master and Servant Act*; and they were responsible for the operation of other means of social control, such as the licensing of timber cutters, described later. The magistracy was of two types: Police Magistrates who were stipendiary officials employed by the government and who provided the local network of colonial administration and legal enforcement, and local justices

recruited from the respectable gentry or officers. Unlike New South Wales under Macquarie, the magistracy in Van Diemen's land was not opened to emancipists but remained the preserve of wealthy landowners in the country, and employers and merchants in Hobart and Launceston. Not only did legislation and regulation serve the interests of capital, but implementation stayed firmly in the hands of its beneficiaries.

MERCHANTS AND BANKS

In the first half of the nineteenth century, the ruling class in Van Diemen's Land comprised three fractions of which the government officials and officers and landowning gentry have already been described - the former controlling the society and distributing land and labour, the latter possessing much of the land and stock and profiting from labour bond and free. The third fraction, the merchants and bankers, were of equal if not greater importance due to their control of trade, finance and credit. These fractions were closely inter-connected and their interests frequently overlapped, though not without conflict.

The existence of prison-farm production and the dependence on imported goods in the early settlements meant that trade internally with the Commissariat, or externally, was central to capital accumulation *within* Van Diemen's Land. For the first merchants, the profits from trade were probably better than those from production, though the risks were greater.[33] Although the officers did not develop a closed trading ring, as the notorious 'Rum Corps' had in Sydney, yet there were substantial connections between government officials, officers and merchants.[34] From high profits on early trading ventures and favoured positions in supplying the Commissariat, the early merchants were able to extract sufficient capital, and establish commercial connections with colonial and British merchants, so that they could take every advantage of the expansions of settlement and exports as they occurred. They had

many functions: wholesale importing, retailing, financing settlers on mortgage security, and advancing or speculating on produce exports. They often acted as small bankers and frequently issued promissory notes and bills due to the shortage of currency. New settlers always needed supplies to establish their farms and often needed credit until their crops could be sold. The lack of a cash market for grain and stock, as well as debt, put the small farmer, and often his land, in the hands of the merchants. In 1824 Curr prudently cautioned intending settlers by noting that:

> He [the new settler] will, if he thinks proper, obtain credit with great facility; but he must generally pay nearly twice the value of articles so purchased; and when the pay day arrives, he will too often find he has been labouring for the merchant, instead of himself; and, from being the proprietor, he descends to be the mere tenant of the soil.[35]

As trade and commercial activity increased, the merchants' functions divided. Colonial banks were formed in 1824 and 1828 with capital from local merchants and landowners, and trade tended to separate into a few large wholesalers who imported the goods sold by many smaller dependent retailers.[36]

The rapid expansion attracted British capital to commerce, insurance and banking.[37] The wool trade was conducted on extended credit (provided ultimately by London capitalists) through the colonial merchants who not only linked producers and consumers but also functioned to link colonial production completely into the world capitalist system.[38]

Profits extracted in trade and finance provided capital for further commercial ventures, such as colonial banks and insurance companies, and for productive investment. Most merchants were also landowners who either farmed or grazed the land with wage labour or let it to tenant farmers. Partnerships in manufacturing, whaling, shipping, milling, brewing and the timber export trade were common between the larger capitalists of both the land and commercial fractions.[39]

STATE FORMATION

The form of the state changed during the first half of the nineteenth century.

The first change was the amalgamation of the settlements at Port Dalrymple and the Derwent into a single administration in 1812 that we noted earlier.

While arbitrary justice controlled the convicts it failed to settle trade disputes or bring speedy retribution to sheep-stealers. Further, the simultaneous expansion of wool production and convict numbers required careful and local state administration. Following Commissioner Bigge's reports of 1822-3 these needs were met by inaugurating a Supreme Court in 1824 and by constituting Van Diemen's Land as a colony independent of New South Wales in 1825.[40] A Legislative Council was authorised in 1828 consisting of six government officials and eight non-official members - mostly wealthy landowners but with some merchants and bankers - selected by the Lt-Governor who presided.[41] The Council was structured to integrate the emerging interests of colonial capital with those of Empire; when these were contradictory, the council provided a focus for conflict.

Conflict came when the British government replaced the assignment of convicts with their allocation to public works gangs for periods of 1-4 years followed by probation during which they could be employed at a low wage. Angry opposition from the landowners first arose because of the loss of the assigned labour they needed in a time of shortage. However this quickly reversed in the depression of 1841-44 during which unemployment was widespread and the wages of free labour dropped severely.[42] The colony could not afford to support so many convicts on public works and the probationers, even on their low wage of $18 a year, could not all be employed. The situation was aggravated by the arrival of free immigrants sponsored in wealthier times. Revenue from land sales dried up and, after paying the immigrant's fares, the colony was

forced into debt. With an overabundant supply of labour, the interests of both settlers and free labour coincided in their opposition to further transportation; the former on account of cost, the latter from competition on the labour market. The conflict erupted in the Legislative Council in 1845 when the 'Patriotic Six' non-official members refused supply.[43] The opposition to transportation was closely associated with demands for representative and self-government. Included in this amalgam was the benefit to pastoralists of control over the extensive areas of Waste Lands they leased. The discovery of gold lent weight to the struggle for these ends. In Van Diemen's Land, success was marked first, in 1851, by the expansion of the Legislative Council to allow for sixteen elected members and eight official ones; secondly, by the end of transportation and the arrival of the last convict ship in 1853; and most importantly, in 1856, by the change to self-government by a bicameral representative Parliament - a change symbolised in a new name - Tasmania.

TIMBER MARKETS

Timber was produced commercially in Van Diemen's Land for internal, foreign, and most importantly, colonial markets.

The internal market was limited. Timber for rural building and fencing rarely became a traded commodity and the convict system provided for public works. Timber for building in Hobart and Launceston was provided mainly through timber merchants who generally undertook most of the production process - at least initially in the small business mode.[44]

Small parcels of timber baulks, which did not attract duty, were sent to Britain in the 1820's, but the market did not develop and foreign timber sales were trivial until a market developed in New Zealand in the 1860's.[45]

Colonial markets were provided by the growth of Port Phillip from 1835, the spurt of settlement in South Australia, 1836-1839, and above all by the Victorian gold rush which created an intense demand not only on the goldfields but for the boom of house building in Melbourne that continued through the 1850's. Van Diemen's Land was well placed to supply this sudden market as it had ample resources and timber close to water. Palings and shingles were particularly in demand and could be produced readily in the new areas being opened up in the south around the Huon and along the banks of the rivers of the north and north-west coast. The sudden scurry of men to the goldfields in 1851 cut production by 40% but labour shortages were overcome - in part by the mechanisation described in Chapter 4 - and production and exports increased dramatically. Timber, which had only comprised 2.6% of the colony's exports in the 1840's, increased its share to 11.9% in the 1850's. In 1853, the best year, timber made up 25.2% of exports with a value of $0.88 million This was not to be exceeded for seventy years. The boom years of 1853 and 1854 were followed by a sharp drop when timber from other areas, and particularly the west coast of North America, arrived in quantity on the Melbourne market.[46]

Table 3.2

Average annual value for timber exports 1837-1859[47]

Period	Average annual value ($)
1837-39	18,328
1840-49	29,344
1850-59	292,297

THE MODE OF COMMERCIAL PRODUCTION

The boom in trade across Bass Strait was promoted by general merchants who added timber to their shipments of meat, wheat and provisions, by existing timber merchants and by entrepreneurs

entering the timber trade for the first time. Of the last, James Fenton has provided one of the few accounts of the timber trade in the mid-century.[48]

Timber was produced for trade under capitalist relations. Their particular form was determined very largely by the nature of the labour process and the merchants' control over credit, transport and access to markets. Ownership was of less importance, as the tools required were simple and the raw materials - trees - although legally the property of the Crown or settler, were economically free goods - present in abundance and viewed generally as obstacles to grass or grain.

The sites most accessible for shipping were often otherwise isolated so that the pit-sawyers and splitters had to live in the forest, in bush huts built at each site, and rely on provisions shipped in from time to time. They worked mostly in small groups - 4 to 6 was probably typical - but sometimes in pairs or singly, and moved from patch to patch in continual search of the most easily processed and accessible trees.

The sawyers and splitters worked on a piece-work basis, as most timber workers in Tasmania do today. Rates were set for each 100 feet [30 m] sawn, bundle of shingles, or 100 palings split and so forth so that the quantity a worker produced in a given period determined the wage from which he had to support himself, and his family in the minority of cases in which he had one. The merchant set up a group of men on a cutting site, provided supplies on credit, shipped the timber and delivered further provisions debited against the amounts due to the men under what is known as the 'truck' system. Fenton has described the system:

> At the commencement of 1840 he (Mr Thomas Drew) went into the timber trade on the coast, sailed a small vessel between the rivers and Launceston, and supplied the splitters with goods in return for palings, staves, shingles, posts, rails etc. This proved to be a money-making business, for about the year 1844 he was the purchaser of 640 acres [259 ha] at the Don Heads, most of which was rich agricultural soil. He let a portion to tenants in 20-acre [8 ha] lots, put on splitters in the bush, to whom he paid low prices; kept a store in order to supply his

> extensive establishment with all they wanted at enormous rates, and shipped off the timber to Adelaide in his own vessel, the schooner *Charlotte*. He kept on steadily in this business for years, securing all the best freesplitting timber for miles back at a mere nominal cost, and selling it at exceptionally high prices in the Adelaide market, where he seemed to have a monopoly at that period.
>
> It was a practice of those timber-dealers (Drew, Kingswell and others) to bring in all sorts of provisions, clothing and luxuries. The splitters motto was 'Live while you can'. They never laid by for a rainy day. I have seen cases of bottled ale, wine and spirits taken home to the splitters huts with pickles, tinned meats, fruits and other dainties, most costly at that time. Then they worked hard, and split a wonderful lot of timber.
>
> ... that wandering class of bushmen ... were accustomed to live in rudely built huts of sapling poles, with sides and roof of stringybark, easily constructed in a few hours, where they philosophically endured privations that would break the heart of any eight-hour man of modern times.[49]

Transport was organised in the small business mode. The bullocks and horses commonly used for snigging and transport from the bush to the water's edge were generally owned by carters or local farmers and contracted at a piece-rate or hired by the day. The small shallow-drafted ketches that collected the timber, and the larger vessels that loaded where water was deep enough and shipped across Bass Strait, were owned by individuals who contracted a piece-rate or by the merchants themselves.

The merchants who controlled production did not *necessarily* own any of the means of production - trees, tools, animals, or ships - other than working capital in the form of credit, or direct sustenance for the workers. The timber workers were not independent petty-commodity producers but proletarians working for a particular form of wages in the production structure of competitive capitalism which incorporated dependent small-business for transport.

What were the particular features of production that led to these relations? The employer, no less than the warder, had the problem of obtaining the most out of labour. In piece-work both quality and quantity of labour are controlled by the products themselves; the employer is relieved of continuous supervision of the

workers and need only inspect and tally the products. The isolated location and scattered disposition of sawyers and splitters would have made direct supervision of time-work expensive and difficult. Even with piece-work merchants sometimes sent overseers with parties of splitters to particularly isolated sites.[50] Marx has argued that piece-work seems desirable to workers because it allows scope for individuality and an appearance of liberty, independence, and the opportunity for self-control in production free of the continuous supervision of time-work. By additional striving a worker can produce more and improve his personal lot. This results in wide differences in wages according to age, skill, strength and energy, and induces the labour force as a whole to work harder than it otherwise might. At least part of the benefit from this increased effort accrues to the employer and is reflected in the rates paid, so that the older, less able and weaker workers are economically compelled to seek work elsewhere. '... Piece-work has therefore the tendency while raising individual wages above the average to lower this average itself ...'[51] Piece-work, which appeals to individuality and places workers in competition with the average of their fellows, acts in an inherently divisive way. Marx concluded that the '... piece-wage is the form of wages most in harmony with the capitalist mode of production ...[52]

Even though the piece-work system was divisive and the regime oppressive, yet sawyers did manage 'through love and unity [to] support each other' in forming the Hobart Town Sawyers Benefit Society in 1839. This was based on small voluntary subscriptions that provided enough to pay the cost of a man's or his wife's funeral. The society disappeared in the late 1840's; probably being superseded by Masonic Lodges.[53]

The contracts for snigging, hauling and shipping timber were mostly let by piece-rate which removed the need for supervision by the merchants. The equipment required was comparatively cheap, so that entry into contracting was possible even with a small amount of capital. The attraction of apparent independence was heightened by ownership over some of the means of production; by hard work,

enterprise and thrift, man might a master make. While the most energetic, skilled or fortunate throve, competition kept piece-rates low. By caring closely for their own beasts and boats, working contractors relieved merchants of the difficult problems of guarding and maintaining the means of production in isolated situations; by supplying part of the capital they relieved them of expense also.

While piece-wages and rates provided incentives to increase the quantity produced, they often did so at the expense of quality. Timber products are cumbersome to examine, special skills are needed, and when shipped directly from the forest, they must be inspected there. If inspection is inadequate, any defects are left to be detected by customers. In an early example of what was to prove a recurrent problem for Tasmanian timber exports, the *Colonial Times* reported the:

> ... too common practice of unprincipled splitters and sawyers to crimp in quantity ... Bundles of lathes that should run 200 are found afterwards not to exceed 150 to 170, and shingles which should be 100 are frequently found 70 to 90.[54]

CONFLICT AND CONTROL

The contradictions, conflicts and controls within and between classes took particular expression in the production of timber.

The timber workers were of necessity independent and self-reliant forest dwellers who moved frequently between sites and districts. Their life was quite at odds with the policies of the gentry, whose rise depended on driving people out of the waste lands and restricting the mobility of labour. The ruling class promulgated a real or imagined harmony of interest between 'the denizens of the bush', conveniently lumping together small independent pastoral producers and timber cutters with sheep stealers and bush rangers. They moved to place the timber workers within the net of magisterial and police control, as part of their assault on independent producers, by including measures to control the timber workers in the grazing lease regulations of 1828, discussed earlier. The Government

Order that announced that Crown Land was to be leased for grazing was also drafted to cover the sawyers and splitters:

> Persons wishing to remain on Land for the purpose of sawing and shingle splitting only, will at any time be able to obtain a similar [to grazing permit] written permission from the Police Magistrate of the District upon reporting to him their names - their last and usual place of abode - the place they will have to perform - and the period in which it will be accomplished. The permission will be granted for such specified period only - but be renewable on a new application.[55]

It was not until six years later that a charge of $0.10 per week was made for timber licences. The Executive Council very clearly saw the issue of timber licences as a measure of social control rather than a forest or revenue matter, and required the Colonial Secretary to:

> notify the Chief Policy Magistrate that as the introduction of this measure (licence fees) is intended to be a matter of Police rather than Revenue, it is through his department it must be carried into effect ...[56]

The Chief Police Magistrate had the 'firm conviction' that:

> ... these sawyers and splitters are in most instances productive of more evil than good - that they constantly harbour and assist Runaways for which offence it is almost impossible to bring them to Conviction - and that had it not been for persons of this description in the Stringy Bark Forest, Britton [a bushranger] and his associates could not have kept out so long - upon this point no difference of opinion exists.[57]

The administration of timber licences was cumbersome. The splitters and sawyers applied and paid their fee to the local magistrate who let them start work. The applications and fees were sent to the Surveyor-General in Hobart who issued the licences and sent a monthly return to the Chief Police Magistrate '... with a view to enabling the Police Department to remove all unauthorised trespassers ...'[58] The long delays before the licences were received from Hobart hindered local police who could never be certain who had licences and who had not.

The local gentry pressed the police to action against the timber workers. For example, '... an influential person in the district ...' brought a case of possible cutting after the expiry of a licence before Police Constable Palmer at Bicheno and expected him to act

under threat of a charge of neglect of duty, yet without knowing who was licenced Palmer was not sure of his rights and feared a retaliatory law suit.[59] Conflicts became more pronounced from the 1840's on. On the one side, flocks multiplied, the tenure of leases was lengthened, and graziers made capital improvements in the waste lands; on the other, timber production and the number of workers increased so that more licences were taken out - often over the same lands. The gentry were able to exert considerable power locally and in Hobart. In one example R.C. Gunn, an influential grazier and estate manager of Launceston, opposed applications for timber licences on land that he rented for grazing on the grounds that cutters would damage fences and let sheep stray.[60] In another, John Archer, a substantial grazier of Deloraine, was able to use the police to stop the cartage of wood that he had allowed to be cut - a decision that a subsequent report to the Chief Police Magistrate considered 'unfair'.[61]

The Surveyor-General, although admitting problems had arisen with timber licences, was not in favour of excluding cutters as he thought the large landowners would monopolise large tracts of land in convenient situations '... to the detriment of Revenue and the injury of the Timber Trade ...'. He feared that:

> Persons might take up depasturing licences on the Banks of navigable rivers with the ulterior object of obtaining *exclusive* timber licences ...'

The Surveyor-General then considered concentrating the sawyers and splitters in part of the forest:

> ... by which means the wandering Backwoodsman-like habits might be somewhat corrected, Police Surveillance facilitated, and the best timber and the best situations for carriage be no longer recklessly cut down *everywhere* for every purpose.[62]

There seems little doubt that the majority of the timber cutters were ticket-of-leave men and emancipists who had learnt how to work timber at Port Arthur and other convict establishments. Whereas statements by police and other officials, like those of the pastoralists, evidenced convict associations and wandering habits as justification for measures to subordinate the timber cutters, James Fenton, who employed many, evidenced quite different attributes. He

found '... they were as a rule quiet, hard-working and intelligent ...' and although '... a small keg of rum occasionally found its way to their bush encampments ...', his overall evidence was of honesty and industry.[63] Their self-reliance in the forest and their mobility was necessary for timber production, and in spite of the pastoralists' objections, timber licences continued to be let on Crown land areas that were also leased for grazing. The Surveyor-General's plan was not adopted. In this instance the state, through the official fraction of imperial officials, did not act solely in the interests of the pastoralist gentry, but preserved the interests and opportunities of the expanding commercial timber trade.

The expansion of timber production, particularly in the Huon district, led to the appointment of an inspector of timber licences within the Survey Department in 1848. Although Mr Laffer, Timber Inspector of the Huon, was authorised to collect revenue and issue licences, social control was still kept in the hands of the police:

> The persons to whom a licence is issued should be bound to produce his former licence before he receives another, and these are to be kept as vouchers ... The Assistant Police Magistrate will exercise the usual jurisdiction, and certify as to the character of the men.[64]

A second inspector was appointed later. The new appointments were successful and revenue collections from the Huon were built up to $7,756 by 1853. In the remainder of the state, the responsibility remained with the police and was not finally lost in all areas for almost a century.

DEVELOPMENT AND THE TIMBER TRADE

In this chapter, we have seen how a new structure of producing timber under capitalist relations developed in Van Diemen's Land. Unlike the coercive relations in the sawing and punishment stations, the piece wages and truck relationship between manual cutters and colonial merchants did represent one of the defining or salient features of the then current state of the world-system.

The three-way articulation between Britain, prison farm production and colonial capitalism, described in the previous chapter, continued and shifted. Prison farm production relied on a continual supply of new workers from Britain. These passed through the system and provided most of the recruits for capitalist production of timber. This articulation, and the fact that few emancipists could marry and incur the costs of the natural reproduction of their labour, functioned to depress piece wages. The addition of free immigrant labour during the depression of the 1840's exerted a further downward pressure on rates. These new workers arrived in families and had to bear the costs of their reproduction. The articulation of the prison farm system with the emancipist cutters extended through the labour market to depress conditions for the new workers. This and cultural factors acted bitterly to divide the working class between those who bore the costs of reproduction and those who did not.

The state continued to function: as an instrument for social control in Britain, to coerce labour from convicts, and to provide the needs for colonial accumulation. In addition, the state took decisive action to promote large-scale capitalist, pastoral and agricultural production over small business production, and to destroy independent petty commodity or peasant production. Its intentions in destroying Aboriginal production were ambiguous, but the results were effective. The state's actions in relation to the minor sector of timber production were directed toward its functions of social control, and the promotion of capitalist production in the major sector. Such complex actions are not readily explained by any *single* theory of the state. Some actions (such as continuing the convict system) can be described in terms of the instrumental theory; some (such as providing land to capitalists) can be described in terms of capital logic theory; while others (such as licensing timber cutters, or dispossesing Aborigines, petty commodity producers, and small farmers from the land) are more the concerns of the class structuralist theory of the state.

Overall, the period was one of prodigious expansion in production, economic growth, and capital accumulation; one in which a complex capitalist society was developed. The period was certainly one of modernisation, but it was not one in which the benefits flowed to many. Rather it was a period during which strong state action ensured that surplus flowed from a depressed proletariat to enable a few to accummulate rapidly and to realise the benefits of export trade.

Chapter 4

THE RISE OF SAWMILLING, 1850 - 1879

The third quarter of the nineteenth century has been called 'the golden era of capitalist growth' in which the world economy expanded dramatically through industrialisation in the core and trade with the peripheries. In Australia, the expansion was magnified by discovering a wealth of gold, rapidly increasing the population, building cities and establishing a much more complex society. Although Melbourne and Adelaide provided markets for her timber, however, much of the tumultuous growth and change on the mainland passed Tasmania by.

In this chapter we will first set the background of British and Australian development and the pattern of Tasmanian society. Then we will consider the addition of a new structure of mechanised production of sawn timber - sawmilling - that operated mostly within the relations of competitive capitalism. Finally, we will consider the conditions under which the structure of manual production, described in the previous chapter, continued in the presence of the new one.

BRITAIN

In Britain the lingering limitations of mercantilism were swept away as the Corn Laws were abolished in 1846 and the Navigation Acts in 1849. Several 'free trade' treaties between European industrial nations followed.[1] Capital already accumulated, as well as Californian and Australian gold, was invested in further industrialisation. Engineering and metal working flourished enabling machines to make steam engines and other machines. Britain was the 'workshop of the world' and although industrialisation spread to Germany, France, the United States, and to a lesser extent several European countries, Britain stayed ahead.

Manufactures from the core of industrialising countries were carried in increasing quantitities to wherever their price, innovation and quality - aided by imperial clout where necessary - could open new markets. Raw materials and cheap food, which kept the cost of labour down, returned in exchange. The 'boom' of business generated profits which were absorbed mainly within the industrial countries by further industrialisation and the building of railways to cheapen transport.[2]

The ascendency of economic liberalism - *laissez faire, laissez passer* - was paralleled by the ascendency of political liberalism; Tories gave way to Whigs, though not always; and in 1867 the franchise was extended to another million males. Copying an Australian innovation, the ballot was made secret in 1872. Socially, the interests of the urban middle classes were in the ascendant, although they often blended with those of the aristocracy, the rural gentry and merchants. The conspicuous prosperity of Victorian England became that of the bourgeoisie.

In contrast to bourgeois prosperity, conditions for the working class only improved in parts and as the result of bitter struggles which were hampered by continually high unemployment. The population of Britain increased by 43% to 29.7 millions.[3] Agricultural production was increased by investing capital in new techniques of arable farming, better stock and artificial fertilising; at the same time productivity was increased by mechanisation, so that employment declined.[4] The urban centres, which already contained 51% of the population, grew further. The struggle for better wages and conditions was marked by a series of Factory Acts and the establishment of enduring trades unions.[5]

Capitalists countered the rising wages with increased mechanisation, as in the case of wood-working machinery. Although several types of wood-working machines had been invented from the late eighteenth century, it was not until the third quarter of the nineteenth that they were well developed and widely applied.[6] Bale, writing in London in 1880, ascribed development of this machinery to the stuggle for better wages and conditions:

> Till within the last thirty years wood-working machinery in this country must be considered to have been in a very crude state, but of late great impetus has been given it by the constant battles between capital and labour. The great cost and, in some cases, the inferior quality of the work turned out by hand, have rendered the increasing introduction of labour-saving machinery absolutely necessary, to keep pace with the general progress of the times.[7]

The Government, faced with colonial opposition and rising shipping costs, ceased transportation in 1852 (except for small numbers sent to Western Australia until 1867).[8] Rather than legal force it was the push of poverty, the lure of gold or open spaces, and the pull of better prospects that induced some 4.6 million Britons to emigrate between 1853 and 1870, mostly to North America but also to Australia.[9]

AUSTRALIA

Gold, and the economic boom of the 1850's its discovery created, attracted immigrants from around the world so that Australia's population rose from 0.4 to 1.1 million in that time and then doubled to reach 2.2 million by 1880.[10]

Gold provided a sudden surge to the colonial economies, but although gold production slowly declined after 1856, wool exports continued to increase.[11] Australian economies became more complex in the post-gold rush period as investment in urbanisation, construction and domestic manufacturing proceeded.[12] Until the 1880's, economic growth was due far more to capital accumulated *within* the colonies than to overseas borrowings.[13]

Urban growth was closely associated with the marked increase in secondary industry (manufacturing and construction) that rose from 16.1 to 25.1% of Gross Domestic Product between 1861-65 and 1875-77.[14] The consequent demand for more and larger houses in Melbourne, Adelaide and Sydney provided the main markets for Tasmanian timber (Table 4.1). Construction did not proceed smoothly however but fluctuated considerably from year to year, particularly in Melbourne.[15]

Table 4.1

Population and housing details :

Victoria, South Australia & New South Wales 1861-81[16]

Detail	Victoria	South Australia	New South Wales
Increase in metropolitan population (000's)			
1861-81	143	57	129
Average dwelling size (rooms per house)			
1861	2.69	3.25	3.55
1881	4.26	4.03	n.a.
Increase in number of permanent dwellings			
1861-81			
Brick and stone	26,625	25,023	25,778
Weatherboard	55,797	2,825	32,634

Although landowners and squatters maintained a conservative hold of the upper houses in the newly-independent colonial parliaments, the urban middle classes held 50-60% of the seats in the lower houses of New South Wales and Victoria.[17] The press of liberal and democratic ideas was reflected to varying degrees in measures to extend the franchise, provide secret ballots, pay representatives, and equalise electoral districts.

Colonial prosperity, displayed by the housing facades in middle class suburbs, was not matched by conditions in working class areas, though these were significantly better than those in Britain at the time. Trades unions were started or revived in Sydney and Melbourne in the late 1850's and became co-ordinated in campaigns such as that for the eight-hour day. Failure of industrial action in the 1860's however, led to increased interest in political means to improve conditions.[18]

TASMANIA

The economic stimulation provided by the gold-rush markets was not sustained in Tasmania, and the economy stagnated through 'the long depression' from the 1860's to the mid-1870's. The population increased at less than half the rate of the other colonies and at less than the rate of natural increase, for the number leaving Tasmania - mostly in search of better wages in the other colonies - exceeded the number of immigrants (Table 4.2 & 4.3). Secondary industry remained small-scale and depressed and there was no proportional increase in urbanisation. House construction proceeded more slowly, to the disadvantage of the domestic timber market, and the situation was aggravated by: the continued decline of whaling and sealing; the loss of wheat markets from the mid-1860's on to cheaper grain produced by more mechanised methods on extensive farms in South Australia; and the protective tariffs introduced by Victoria from 1865. Only a gentle increase in the export of vegetables - mostly potatoes from the northern coast and jams and fruits 'as fine as any that the world can produce' that rose to make up 15% of exports by the end of the 1870's - contrasted with the general malaise.

Table 4.2

Relative wages for selected occupations

Tasmania and Victoria 1861-1879[19]

Occupation	1861	1870	1879
Carpenters (per day without rations)			
Tasmania	$0.87	$0.71	$0.79
Victoria	$1.07	$1.00	$1.00
Day labourers (per day without rations)			
Tasmania		$0.46	$0.51
Victoria	$0.72	$0.60	$0.65
Farm labourers (per week with rations)			
Tasmania		$0.91	$1.06
Victoria	$1.75	$1.75	$1.75

Table 4.3

Population and housing details : Tasmania 1851-1881[20]

	1851-1861	1861-1881
Population changes (000's)		
Immigration	+ 73	+ 123
Emigration	- 83	- 126
Natural increase	+ 31	+ 44
Total	+ 21	+ 41
Increase in metropolitan population (000's)		
	n.a.	+ 2
Increase in the number of permanent dwellings		
Brick and stone	1 694	255
Wood and Iron	5 049	2 865

Wool remained the major product and the major export for the 1860's and 1870's, and ownership of the means of producing it remained highly concentrated - a quarter of the island's sheep belonged to only 25 'pastoral princes'. In contrast to the other colonies, the position of the landed gentry in Tasmania was strengthened. Pastoralists, bankers and the larger merchants continued to be closely interlocked and the removal of the imperial officials left them to rule. Franchise requirements effectively excluded the working class from representation in Parliament and the secret ballot was the sole concession to democratic ideas.[21] The rule of the landed gentry was implemented not only at the state level but also at the municipal level. After town corporations had been set up for Hobart (1857) and Launceston (1858), rural municipalities were created.[22] Council membership and franchise were legally restricted and multiple voting allowed so that the Councils became controlled by the larger ratepayers.[23] The highly centralised and efficient police administration, that had been built up under Arthur, was broken up and police powers devolved to the municipalities.[24] Control over local government enabled the gentry to increase the rates charged to smaller settlers for roads and bridges while keeping

their own constant.[25] Control over local police and appointments to the magistracy enabled the gentry to keep the rural workforce under tight control.

The somnolence that Trollope described on his visit in 1873 was hardly the tranquility of a harmonious society but rather that of apathy.[26] With the landed gentry so firmly in control of magistracy, councils, police and finance, the '... largely emancipist working class was probably the most dispirited proletariat in the Australian colonies ...'[27] The working class was still deeply divided. At the start of self-government over half the adult popultion were either convicts or ex-convicts who had endured 'the system'; the rest were immigrants or Tasmanian born. The latter, who bore the costs of reproducing their labour, castigated the former, who had little opportunity to do so, with 'that hated stain' of convictism. Much to the gentry's advantage, the populist movements of radical nationalism never took hold in Tasmania as they did on the mainland. The struggle for better working conditions seems to have been expressed individually; so many simply left.

The stagnant economic conditions started to ease in the mid-1870's due to several factors. Markets for Tasmanian produce were stimulated by developments in the nearer colonies, and wool prices and pastoral investment increased sharply during the first half of the 1870's.[28] Building boomed in South Australia in the latter half of the 1870's, gold rushes in New Zealand created new markets, and more timber was exported.[29] In Tasmania, gold was mined in increasing quantities, tin was discovered, and from 1876 minerals started to contribute significantly to the economy.[30] The first railway was only a short one, but in 1873 construction began on the main line between Launceston and Hobart, and by 1879 there were 267 kilometres open.[31]

Thus the 1850's to 1870's included two periods during which economic activity and the demand for timber increased markedly - the gold-rush and the latter half of the 1870's. Both periods saw the advance of the new structure of mechanised sawing of timber.

THE START OF TASMANIAN SAWMILLING

Mechanised methods of sawing timber - sawmilling - although well known in the capitalist world were not tried in Van Diemen's Land until 1825 and did not become common until the 1850's. Manual production - by pit sawing - co-existed with sawmilling until as late as the 1890's, and manual methods continued to be used for hewing large beams, piles and sleepers well into the twentieth century.

It seems clear that neither lack of knowledge nor capital precluded the mechanisation of sawing prior to the 1850's. Colonial entrepreneurs had built 30 grain mills by 1830 and these were of similar size, cost and technology to 4 sawmills built between 1825 and 1850.[32] Timber markets were sufficient to justify mechanisation, for there was considerable local building during the 1830's and 1840's and the export market was developing.[33] Hence the continued dominance of manual methods must be attributed to labour factors - production in the convict system was manual by intent, and capitalist production for the merchants was cheap at the depressed wage rates that prevailed. The validity of this attribution is strengthened by subsequent events, for when labour and market factors changed (Table 4.4), mechanisation occurred.

The first wave of mechanisation occurred in response to Victoria's post gold rush population and the building that followed the 1851 gold-rush and which simultaneously increased the market for timber and drained Tasmania of labour; within 4 years, 19 new sawmills were built.[34] This sudden spurt was followed by a depressed period of almost 20 years in which trade fell away and there was almost no further mechanisation - indeed a number of mills were forced to close from time to time.

The second wave of mechanisation occurred during the second half of the 1870's. The export markets increased by one-half and the internal market improved to supply the timber to mines and railways. The price of sawn timber rose by one-third and wages by about 13%.[35] In response, 26 new sawmills were built.[36]

Table 4.4

Timber exports and prices : quinquennial averages, 1850-1879[37]

Period	Average of annual values of timber exports ($000's)				Average of annual prices in Hobart		
	Sawn Timber	Split Timber	Hewn logs,etc.	Total	Sawn ($/m^3)	Palings ($/100)	Shingles ($/1000)
1850-54	n.a.	n.a.	n.a.	370	n.a.	n.a.	n.a.
1855-59	110	100	4	214	n.a.	n.a.	n.a.
1860-64	64	70	4	138	n.a.	n.a.	n.a.
1965-69	30	66	2	98	n.a.	0.95	1.05
1870-74	42	64	2	108	3.39	0.97	0.97
1875-79	66	70	8	144	4.20	1.09	1.19

The change from pit-sawing to sawmilling altered the production process. Tramways with wooden rails had to be built to bring logs from the forest to the sawmills. Normally, bullocks and horses were used both to snig logs to the tramways and haul them to the mills. A few small steam locomotives and some iron rails were in use by the end of the 1870's.

The sawmills were very small by modern standards, some being no more than conversions of or additions to flour mills. In the 1850's, mills built in southern Tasmania were mostly powered by water wheels, and those in northern Tasmania by 9-15 kilowatt steam engines. The mills were equipped with frame saws (with 1-6 blades) and some with circular saws as well. By the 1870's, nearly all new mills were steam powered. The first detailed statistics were published in 1885, shortly after the second wave of mechanisation.

Table 4.5

Sawmill statistics, 1885[38]

	Water	Steam	Total
Number of mills	9	53	62
Average power (kW) per mill	12	18	17
Number of hand			12
Capital invested ($)			3,598
Annual value of timber ($)			4,102

The sawmills established in the timber boom of the 1850's were built by a variety of individual entrepreneurs: doctors, flour millers, a clergyman, a coach builder, merchants and immigrants. The beginnings of specialisation with distinct production structures in 'Forest' and 'Town' sawmills soon started to emerge. The difference lay in the markets and the degrees of processing. The forest sawmills were located in the forest areas to reduce log haulage. They generally produced only rough sawn green timber which was sold either directly or to merchants who seasoned and dressed part of it. The few (7-9) town mills were built in Hobart and Launceston and were integrated parts of timber merchants' businesses catering to the local building trades.[39]

A few forest mills, such as Cummings & Raymond's (later Cummings, Henry & Co) and Moore & Quiggin's, which were established in the areas in northern Tasmania being settled at the time, were able to expand and diversify. They obtained an advantage from control over access, for the tramlines they built to bring logs to their sawmills also let small settlers in to clear the cut-over land. The sawmilling businesses were soon diversified into providing transport, selling stores and handling the settlers' produce. In addition, they organised the production of shingles and palings by manual splitters. Production was organised in these sawmills into the relations of the competitive sub-mode by employing labour on time wages. The businesses were profitable and expanded, occasionally by taking over other sawmills.[40]

Most forest sawmills, such as those in the Huon district of southern Tasmania, remained small affairs; some were operated by working proprietors in the small business structure, and others in the competitive sub-mode entirely with wage labour.[41]

The town sawmills were built by colonial businessmen already using timber: builders, a joiner, a shipwright and merchants. They not only cut timber from logs brought by ship or dray, but bought timber from the small forest sawmills and imported high quality woods for joinery and special uses. They stored, dried and resawed timber in their town yards to fill local orders. Several of them installed planing and moulding machines to dress the timber. These businesses have proved remarkably durable and several, such as Risby's and J & T Gunn's, are still in the hands of the descendants of their founders.[42]

MANUAL TIMBER WORKERS

Pit-sawing co-existed with sawmilling and, although the relative quantities can not be determined, appears to have remained significant. The census in 1870 recorded 250 people occupied as 'sawyers' who were probably manual rather than mill workers, and a gazetteer in 1877 lists seven districts in which manual sawing was important.[43] Manual workers competed with sawmills not only for the type of timber pit-sawn but because mill-sawn boards could replace split palings for cladding houses and sawn railway sleepers could substitute for hewn. From export statistics (Table 4.4) it appears that split timber, of which palings were the principal component, was able to hold a fairly steady place in the trade throughout the 1860's and 1870's, but that sawn timber declined severely during the long depression. As the number of sawmills did not decline to nearly the same extent, it appears that the brunt of the decline in exports was born by the pit-sawyers.

The improvement in the manual timber workers' lot provided by the gold-rush boom was soon reversed by the first wave of

mechanisation, returning miners, the *Master and Servant* legislation, and falling market prices. The long depression bore particularly severely on the timber workers for the two structures of production - manual and mechanised - each served to depress the other. The situation was aggravated by the erratic nature of timber markets and the increasing difficulty of finding good splitting timber close to water.

When cutters had first come to the Huon, '... timber was so abundant that the splitters and sawyers carried down the produce of their own labour to the jetty or shipping place [but] as the conveniently situated forests were worked out ...', timber had to be carried further and further.[44] The work was then generally divided with some men splitting or sawing and some carrying. As market prices did not increase (Table 4.4) the burden of increasing transport costs fell on the manual producers, as the Surveyor-General reported in 1862:

> Split stuff is now very generally obtained at a distance varying from six to ten 'carries' from the waters edge or some cart road leading thereto. (A 'carry' or 'spell' is a distance of about 300 yards [274 m]). If the 'stuff' be deposited direct at the waters edge, the cost to the splitter is only one-half of his daily earnings - that is the carrier receives 500 palings of every 1 000 that he *backs* down. The weights carried by these men are immense: about 40 palings at a time (said to weigh between 4 and 5 lbs each [1.8-2.3 kg]) is a single load.[45]

Rough tracks were built where they could be put easily and the timber transported in horse-drawn carts. Cartage along them cost $0.06 per kilometre for each 100 palings so that carrying and carting together absorbed 60-70% of the value of the timber. The District Surveyor reported that:

> Generally, throughout the Huon, it takes a man a day to carry 200 palings the distance of one mile [1.6 km], and so on in proportion. This loss of time, added to cartage and freight, leaves but a small balance for the splitter, who is dependent on a mere pittance for his support.[46]

The cutters found it increasingly difficult to pay their licence fees of $0.25 per week. In 1866, after representations from the men, Parliament reduced the weekly fees to $0.10, but raised them again two years later. The workers petitioned Parliamentarians for a

reduction by calling on their sympathy for the hardship of their work:

> ... your Petitioners are engaged in a very laborious business, in the prosecution of which they are exposed to many hardships and privations. Cut off from intercourse with their fellow colonists, and deprived of much of the comforts of a home, they have to pursue their calling in the recesses of the bush exposed to many variations of temperature, and almost always to the inconveniences caused by a superabundance of moisture and the impossibility of the sun's rays penetrating where they have to seek an uncertain livelihood.

They pleaded that:

> ... your Petitioners are less able to bear any increased burdens now than they were in 1866 when they received much needed relief, and therefore that the increased fees imposed since the beginning of 1869 have proved very oppressive to your Petitioners, many of whom have in consequence been at times starved of food for themselves and families, the licence fees often amounting to the week's earnings.[47]

The men were often helped by their wives and families and objected to having to pay licence fees for each. However no remit was obtained and as soon as conditions and timber prices improved even a little, as they did by 1873, the licence fees were doubled.[48] Almost simultaneously the second wave of mechanisation was introduced, which appears to have captured most of the expansion of the timber market.

STATE ADMINISTRATION AND LEGISLATION

Once self-government put legislative power firmly in the gentry's hands, the conflicts between timber workers and graziers on the Waste Lands leased for grazing were stopped, the issue of timber licences having been made subject to the grazier's consent.[49] This gave graziers an effective monopoly over the timber on their runs, which they readily applied.[50]

Although the collection of timber licence fees was not overly pressed in the pastoral municipalities, it was pursued assiduously among small-holders and timber workers concentrated in the Huon. The government temporarily retrenched the timber inspectors in the Huon during the financial crisis that followed self-government, but

collections dropped and a post was restored, much to the advantage of revenue:

> When the office of Inspector of Timber Licences was abolished the fees dwindled down to 173 pounds 15 shillings [$347.50] for the year 1858 and to 157 pounds 15 shillings for 1859, whereas following the (re-) appointment they rose at once to 575 pounds 2 shillings and 6 pence [$1150.25]: this alone is convincing proof of the necessity of having such an officer as Mr Laffer in the Huon District ... .[51]

In consequence the Huon, out of 29 districts, contributed 65% of the timber licence fees raised in 1869-71.

The administration of the timber licence system remained divided between the Police and the Lands and Survey Departments. Applications for timber licences still had to be made to local police magistrates who, if they approved 'the character' of the workers, would forward the applications and fees to Hobart where the Surveyor-General would issue the actual licences. There were inumerable delays.

With the establishment of sawmills and the concentration of cutting in particular areas, much of the itinerant nature of the workforce gave way to regular employment and local residence. It became common for sawmillers and timber merchants to lodge licence applications for their individual workers.[52] Over most of the colony, police constables had to check that sawyers and splitters cutting on the Waste Lands had their licences. This was fraught with difficulties. Men often worked without licences and when caught had their wood seized and sold by the police. But it was hard for constables to determine whether a particular stack of wood had been cut under licence or not - or even find the boundaries between public and private land. Disputes were endless.[53]

STRUCTURAL CHANGE

In this chapter we have seen how a new structure of producing timber - sawmilling - was started in Tasmania. It differed from the manual-merchant structure (discussed in the previous chapter) in that

far more capital was invested to transport the logs and saw them mechanically.

The mills were small and most of the capital to start them came from colonial businesses, modest personal savings, or immigrants bringing small capitals or machines. Ownership was in personal or family hands, sometimes formed into partnerships or even small companies. Owners were or became Tasmanian residents. Management was excercised by the owners and the proprietors of the smaller mills worked physically in them; that is they were conducted in both the small business and competitive structures.

Sawmilling was generally profitable enough for continued extension of tramlines and occasional expansion of business. Some firms were able to turn their command over access, stores, and capital to advantage by diversifying as produce merchants and traders.

Sawmillers and timber merchants did the most they could individually within a polity dominated by the gentry. Several were elected to Parliament, and many were active on municipal councils, road trusts, and harbour trusts where they could influence decisions about the infrastructure they needed.[54] Sawmilling contrasted somewhat with the general pattern of the Tasmanian economy in that at least some mills were able to accumulate and expand during the long depression.

The development of sawmilling appear to have been retarded by the endurance of manual production based on the low wages paid to a proletariat depressed in part by its articulation with the legacy of the convict system. Conditions for manual production steadily deteriorated to a mere subsistence level in the face of both mechanised production and less accessible timber.

The largest capitalists in the major sector - the pastoralists - with the larger merchants and bankers acquired political control which they exercised against smaller ratepayers, labour and the manual timber workers. Trees were abundant, there appears to have been no serious conflict between pastoralists and sawmillers in this

period over access to them, and no state legislation or administration had to be developed to advance or control sawmillers' specific interests. Thus sawmilling developed in a limited and local way during the third quarter of the nineteenth century within a static social structure dominated by pastoral production aimed mainly at supplying British manufacturers and the expanding mainland colonies. All this was to change, as we shall consider in the next chapter, as Britain increased the global spread of capital and arms in the age of monopoly and imperialism.

Chapter 5

TIMBER PRODUCTION AND TRADE IN THE AGE OF MONOPOLY AND IMPERIALISM, 1880-1919

The characteristics of the capitalist world-system began to change from the mid-1870's so that by about the turn of the century the system was described as having reached the stage of 'monopoly' and 'imperialism'.[1] In this chapter, we will consider the salient changes denoted by these labels, the stupendous technological changes that accompanied them, and their effects in Tasmania. Specifically we will examine the origin of the state policies of 'hydro-industrialisation' and concession that affect development to the present day. We will see that the production of timber was greatly expanded by the existing structures and by the addition of a new structure - large sawmills owned by British capital. We will consider how the state legislated to facilitate this expansion. We will then consider the increase of exports of timber to construct the infrastructure of the expanding Empire, and the state's very limited actions to help it. Finally, we will consider the start of the organised labour movement.

THE WORLD-SYSTEM

After the first half of the nineteenth century, Britain's unique position - holding the lion's share of the world's industrial production - could not be sustained. As industrialisation proceeded in the US and Western Europe, and as it spread to Eastern Europe, Russia and Japan, Britain was confronted with competitors. By the early 1890's, both the United States and Germany had surpassed Britain in the production of that crucial industrial commodity - steel.[2] Britain's competitors furthered their own industrialisation by active state assistance and protection, and moreover had the advantages of industrialising on a larger scale with more advanced

technology and newer machines - very often purchased, installed and financed from Britain.[3] By 1873, the rapid growth of the world's capacity to produce was already outpacing the expansion of markets and this situation - a crisis of over-production - lasted for most of the rest of the nineteenth century. Prices and profits were driven down as industrialist competed against industrialist and nation against nation.[4] The struggles to restore profits, capture markets, accumulate and expand yet more, resulted in the development of a new structure of monopoly production, the export of capital for investment in the peripheries, and fierce competition between core powers to divide the world into their empires. In spite of such salient changes, much - perhaps the bulk - of the production remained small-scale, local and competitive - as did Tasmanian sawmilling. Thus we need to consider how the local and competitive structure was affected by the salient new characteristics of capitalism on a world-scale.

Monopoly

The competition between many enterprises, that pressed down on prices and profits, was countered with variable success by a variety of new arrangements that are commonly collated under the general, though technically imprecise, label of 'monopoly'. They ranged from mergers at their most effective, through the creation of holding companies, trusts, cartels, pools and price-regulating associations, to gentlemen's agreements on minimum selling prices.[5] They developed most strongly behind suitable tariffs and in heavy industries with few firms, and typically in commanding and growing sectors such as steel, aluminium, electrical equipment, oil, vehicles and chemicals. In 1903, a British industrialist reviewed the trend:

> In the old days a manufactory could be an individual concern. Next ... a partnership ... Then it grew beyond the capital available by two or three joining together as a partnership, and limited companies became necessary ... Now we have reached a further stage again, when a number of limited companies required to be grouped together in what we call a combine ...[6]

The concentration of capital necessary to build heavy industries was accomplished by the development of banks and financial

institutions, which amalgamated the savings of many individuals with existing industrial capital into what has been termed 'finance capital'.[7]

Labour, as well as capital, organised on a larger scale. During the 1880's and 1890's, the organisation of British workers into unions extended from the skilled trades to the less recognised skills and labouring. The national organisation of unions led to political oganisation and the formation of a British labour party in 1900. Organisation in Australia followed, and sometimes led, on a very similar timetable.[8]

Imperialism

The pace and extent of European conquests in the quarter century from 1880 were unprecedented. At the start, Britain's empire eastwards held India, Australia and New Zealand, while Algeria had been subjugated by France. At the end, Britain ruled 90 million more people, France 40 million more, and Germany 15 million more; Africa had been partitioned among these three great powers; and almost the whole of Asia except Japan had been subjected to various degrees of European rule.[9] Although facilitated by new armaments, military organisation and faster communications, and influenced by many strategic and ideological factors, the great spread of imperialism did provide responses to the problems of capital. Conquest secured markets in which Britain's position had been unchallenged previously. Conquest protected investments made abroad. Investment in countries where raw materials were produced secured, cheapened, and speeded the supply of raw materials, and created markets for rails, locomotives, and a host of industrial products of the imperial power concerned.[10] To a much lesser extent, some materials for colonial expansion were supplied from other imperial territories - such as railway sleepers and timbers from Tasmania, described later in this chapter.

Britain, although no longer the sole 'workshop of the world', remained hegemonic not only by imperial command, but also as 'banker

of the world'. International trade, insurance, credit and investment were arranged largely through London.

Technology

Of innumerable technological changes, those to transport, power and metals most affected sawmilling. At sea, steam predominated over sail from the 1880's, eventually relegating the latter to coastal trade and a few bulky cargoes such as timber.[11] Ships became larger and faster so that, in the case of timber, large, well-organised shipments from the Baltic and the west coast of North America could be made to Australian ports at freights as low as those for small shipments across Bass Strait. Tasmania's natural protection - distance - vanished.[12] On land, steel rails and steam locomotives provided fast, cheap and reliable transport not only over the expanding networks of industralised countries, but in new regions and across continents.[13]

The progress of industralisation in the nineteenth century can be measured readily by the total power of the world's steam engines which almost doubled between 1880 and 1896.[14] In the twentieth century the situation became more complex. Oil replaced coal for steamships from the beginning of the new century, but did not come into its own until the 1920's when it was used extensively for internal combustion engines.[15] Electricity provided a far more flexible and less cumbersome form of power than steam that, when organised as a public utility, could be purchased as a simple commodity.[16] Public electricity generating stations were built in Europe from the 1880's and regional grids to distribute their power were first established in the 1900's. The ability to transmit electricity at very high voltages over long distances with little loss enabled the transmuted power of mountain waters - hydro-electricity - to be brought to manufacturing centres.

The ability to use massive quantities of iron and steel rested on a series of manufacturing advances and cost reductions.[17] Quality too improved and new alloy steels enabled superior machines

to be made. For example, with steel of higher tensile strength and greater flexibility it became possible to make blades for bandsaws which had proved impractical earlier. In these machines, a continuous band of flat steel, sawtoothed on one edge, was placed over two large revolving pulleys between which the logs to be sawn were passed. Large bandsaws were in use in the United States from 1885-1890.[18] (Such machines combined the advantages of both circular and frame saws by providing continuous motion at a constant cutting angle).

Abundant cheap electricity - typically supplied by hydro-electric stations - enabled non-ferrous metals, such as zinc and aluminium, to be extracted economically by electrolysis, and their production increased dramatically from the 1890's.[19] Electricity also reduced the manufacturing costs of other commodities such as wood-pulp produced by the groundwood process for making newsprint. Such energy-intensive industries were attracted to mountainous regions with the water resources to generate hydro-electricity; the alpine regions of Europe, the west coast of North America and Tasmania added industrial production to their poor pastoral and timber economies in a pattern of regional development that has been termed 'hydro-industrialisation'.[20]

Public administration

The technological sophistication and huge size of the new industries, the complexity of finance capital and world trade, and the management of empires were made possible only by increased social coordination and state organisation. Public bureaucracies flourished as the state extended its functions into electricity generation and distribution, the provision of telephones and telegraphs, docks, general education, public health and welfare, colonial administration, and so forth. For all this, efficient, honest and impersonal systems of public administration, based on merit and free from patronage, were evolved in most industrial countries during the late nineteenth and early twentieth centuries.[21]

AUSTRALIA

Australia provided Britain with food, raw materials, markets, and safe investment opportunities. Australia's development was within the Empire, yet it had its own internal impetus. Prior to 1914, British capital in Australia was mainly directed: through loan funds to housing and construction, through colonial government borrowing to public works and railways, and by private investment to pastoral production, private railways and mining. Exports of meat, sugar, wheat, fruit, dairy, mining and forest products were substantially expanded in the 1900's and enabled the debts to be covered. Manufacturing expanded (a little), mostly to supply machinery for the export sectors, and to a lesser extent for domestic consumption.[22] Although the relative importance of imperial investment as against internal accumulation is debated among economic historians, it is clear that there were substantial differences between States and between sectors.[23] In Tasmania for example, British capital was most important in mining but short-lived in sawmilling.

TASMANIA

The narrow basis of production, the limited and local organisation of capital, and the static social structure (described in the previous chapter), were broken by the development of mining from the 1880's which 'boomed' to provide 60% of Tasmania's exports by 1900.[24] This was followed in the 1910's and 1920's by the establishment of heavy industries based on hydro-electricity. By 1920, the characteristics of corporate capital that were later to dominate the wood industries had been clearly developed in these sectors:[25]

- The production of each major commodity in Tasmania was monopolised by a single company.

- Each major company represented an association of British and Australian capital.
- The Australian capital component was largely of mainland origin.
- The major companies in Tasmania had interlocking rather than competing interests.
- The loose association of British and Australian capital known as the 'Collins House' group of mining companies had acquired the ability to conduct scientific research to develop new processing technologies, and had become established in Tasmania by building a zinc refinery - Electrolytic Zinc Company (EZ).

The state 'encouraged' mining and industrialisation by providing large companies with electricity, 'concessions', and privileges. Such policies had venerable antecedents but took on particular forms which provided precedents for the wood industries:[26]

- The state provided industries with electricity at low or subsidised rates.[27]
- The state provided rights to exploit the resources of public lands at little or no rent.
- Rights were often exclusive over all or part of the State.
- The state undertook to exercise its coercive powers on behalf of the industrialist over the general population or some other fraction of capital. For example, rights of access or compulsory acquisition were granted over individual properties.
- The state legitimated the undertakings. For example, company by-laws governing their railways were made enforceable by magistrates.

In return for all these concessions, the legislation required the companies to meet certain minimum construction and safety standards, and to construct the works with despatch. However, in what was to prove a drearily recurrent pattern in the wood industries, when obligations were not met, governments did little but amend them.

The transition from the static rural economy of the 1870's to the industrial and mining economy of the twentieth century led to Tasmanian business, state and society being increasingly incorporated into wider settings. This occurred in part by the take-over or

failure of local firms during hard times, as when the Tasmanian-owned Bank of Van Diemen's Land failed in the crisis of 1891 - to the advantage of its mostly London-based competitors.[28] It also occurred in commerce for while wool had been king, international trade had been conducted directly with Britain. In the new mining era, however, most was conducted through the Melbourne head offices of Anglo/Australian corporations.

The trend to incorporate Tasmanian affairs into an Australian setting reached its political climax with the federation of all the colonies into the Commonwealth of Australia on 1st January 1901.[29] Federation was a necessary step to match the scale of the state to the inter-colonial operations of the largest companies. It guaranteed national markets unfragmented by inter-colonial tariffs. It opened the way for consolidating colonial debts, creating a central bank and legislating for uniform banking regulations, all of which, by increasing stability and confidence in Australia, were thought to enable both public and company borrowings to be obtained in London at lower interest rates. It consolidated military forces and permitted a coherent foreign policy which was required not only to counter the extension of French and German interest in the Pacific, but also to assert Australia's own extensions. Federation was welcomed by Tasmanian farmers looking for secure access to the markets of Sydney and Melbourne for their apples and potatoes, but was feared by smaller manufacturers operating behind inter-colonial tariffs.

Administrative organisations proliferated not only to conduct the affairs of state, employers and employees, but also to conduct a myriad of social affairs from hospitals, schools and mechanics institutes to sporting clubs, debating and conservation societies.

Unions of tradesmen, established in the 1870's and 1880's, formed Trades and Labour Councils in both Hobart and Launceston, and received the Inter-Colonial Congress of Trades Unions for its 6th Conference in Hobart in 1889. These early unions of skilled tradesmen stressed the common interests of labour and capital and

advocated policies of protection and the encouragement of local manufacture.[30] Unskilled workers formed a labour union in 1890 which the pastoralists and capitalists quickly followed with their own Employers' Union. Several of the unions and the Trades and Labour Council itself failed to survive the depression of the 1890's. The resurgence of unionism in Tasmania came from the labour unions. On the west coast, workers employed by the mining companies formed a branch of the Victorian-based Amalgamated Mining Association in 1896. Further branches were formed but the union functioned largely as a friendly society providing welfare benefits to members and their families. The mining companies were able to deflate the union's efforts to some extent by supporting medical unions which provided health benefits. After the visit of a British union leader in 1898, the union took a more active and militant stance in the 1900's.[31] On the sheep runs and farms, workers were eventually organised into an effective labour union by officials of the Australian Workers Union sent from the mainland in 1907.[32] Timber workers too were helped to form their own union in the following year.

In the 1880's, liberal opinion organised political associations and successfully pressed for parliamentary reforms.[33] In 1890, payment to members of the House of Assembly was achieved; in 1900 manhood suffrage was obtained for the House of Assembly; and in 1903, adult suffrage for both houses.[34] Shifting factions and coalitions were replaced by political parties. The liberals, organised under changing party names, dropped their policies of reform and united with conservative interests in opposing the emerging Labor party.[35] A series of labour organizations, formed between 1892 and 1901, led to the election of labour parliamentarians in 1903 and the formation of the Worker's Political League, which subsequently became the Tasmanian branch of the Australian Labor Party (ALP).[36] The older Victorian and Federal Labor parties provided critical financial and political support in establishing the Tasmanian party.[37] By 1909, with 12 members in the House of Assembly, Labor was able to stimulate the growth of unionism which, like the party itself, was encouraged by mainland organisations and often led by immigrant activists.[38]

TIMBER PRODUCTION

Over the period considered in this chapter, the timber industry increased its production by two or three times. British capital built two large sawmills and introduced new technologies, yet small, simple mills operated by working proprietors continued to preponderate and manual production continued into the twentieth century. Mining, industrialisation, construction and a steady increase in fruit growing expanded the internal markets which eventually absorbed half the production of sawn timber. Exports expanded to serve the spread of Empire, though overall, Victoria, South Australia and New Zealand remained the principal export markets.

The official statistics on production and trade for this period are subject to a number of serious shortcomings which must be born in mind throughout the following discussion:

- Production statistics for sawmills were only recorded from 1902. Sawmillers paid royalty to the state for logs taken from public forests on the basis of the volumes they declared, but cheating was endemic and is likely to have biased their returns to the statistician.
- There are no production statistics for any manually produced timber.
- Export statistics were collected for all timber products but their classification changed from time to time.
- Export statistics do not provide any detailed breakdown of destination after 1902, and do not record interstate exports between 1910 and 1921-22.

Sawmills

The number of sawmills in Tasmania increased slowly through the 1880's and 1890's, with about 15 new mills being built each decade (Table 5.1). The number operating fluctuated from year to year, and many closed during the depression of the 1890's. In the worst year (1894) only 37 out of the colony's 73 mills were left at work. The industry slowly recovered, and had 69 mills operating by the end of

the century. Expansion started again in 1908 and about 50 new mills were built in the 1910's.[39]

Table 5.1

Sawmill statistics: Decennial averages, 1880-1919 [40]

Period	Number of sawmills working & furnishing returns	Annual volume of timber sawn (m^3 000)	Average number of workers per mill (including bush workers)	Average power per mill (kW)
1880-89	56		13.3	14.4
1890-99	63		11.7	12.8
1900-09	73	88	14.1	14.8
1910-19	113	130	12.6	13.9

More detailed statistical information is available from 1910 onwards. A classification of sawmills by numbers employed in 1910 and 1920 (Table 5.2) shows that there were only 5-6 mills that could be described as large (with more than 50 mill and bush employees), but an increasing number of very small mills with 4 or less workers.

Table 5.2

Classification of sawmills by numbers employed, 1910, 1920 [41]

(Bush workers included)

Number of employees	1910	1920
4 & under	15	28
5 - 20	57	74
21 - 50	14	17
51 - 100	2	6
100 & over	3	-

The ownership, management and division of labour within the industry is illustrated by a classification of employees (Table 5.3). Few clerical staff were employed. The level of business management was remarkably unsophisticated, even in 1920 when only 211 proprietors, managers, overseers and clerical staff administered 131 sawmills.

Table 5.3

Employment classification, 1910, 1920 [42]

Employment class	1910		1920
	Numbers employed		
Working proprietors	135		97
Managers & overseers	70	)	114
Accountants & clerks	61	)	
Engine drivers & firemen	145	)	
Other workers	1,234	)	1,536
Carters	106	)	
Total	1,751		1,747

During the period considered in this chapter, production became more specialised and four distinct types can be recognised: town mills, general forest sawmills, small case mills, and the new structure of large sawmills.

Town sawmills

The town mills, owned by Tasmanian merchant/sawmillers (such as those described in the previous chapter), produced hardwood by sawing logs and re-sawing timber already rough sawn in the forest mills. They also specialised in seasoning, dressing and moulding, and handled a variety of high value and some imported woods for special uses. They sold mostly to internal markets and their numbers (6 - 8) remained fairly steady.

General forest sawmills

The mills scattered through the forests were mostly small and worked by a handful of men, usually including the owner of the often primitive machinery, cutting rough-sawn green timber. Labour relations were immediate and personal and took diverse forms. For example, small mills were sometimes leased to experienced men who operated them either as sub-contractors or on their own account; and sometimes a crew worked a small mill on a piece-work basis in which

they were paid collectively on the quantity produced and left to divide the amount between themselves. The larger forest mills operated with normal wage relations.

Case mills

The increase in the total number of mills in the 1910's is largely due to the small case mills that were built to provide for the rapidly increasing apple exports. By 1913 there were already 40 of them.[43] They were almost all small individually or family owned businesses operated either by the orchardists themselves or closely associated with them. The logs were often obtained from orchardists' own properties or from land being cleared for further orchards. There was some overlap between the general forest and case mills as the former often produced case shooks as a side line, and the latter could cut scantling and farm timbers for local use.

Large mills

The two large mills built by imperial capital are described later in this chapter.

TIMBER EXPORTS

Both the value and composition of timber exports changed over the period (Table 5.4). Overall, exports increased considerably in both quantity and value, though they fluctuated year by year and dropped to less than a quarter of previous values during the worst years of the 1890's. From the 1880's, increasing quantities of Blackwood were sold on the mainland for making furniture and for fitting out railway carriages - which raised the average value somewhat.

The demand for palings gradually fell away from its peak in the 1860's. Other manually produced timbers, staves, piles, beams, some sleepers etc, are included with the few logs exported under the

heading 'Other' in Table 5.4. Virtually none of the sawn timber was produced by pit-sawing after the 1880's, hence the proportion of manually produced timber fell from about 40% in the 1880's to about 5% by the end of the period. Mechanisation had taken almost a century to vanquish manual production.

Table 5.4

Average annual value of timber exports, 1880-1909 [44]

($ 000)

Period	Sawn timber	Palings	Other	Total
1880-89	60.2	23.9	16.8	100.9
1890-99	43.4	7.1	12.4	62.9
1900-09	151.9	11.8	8.5	172.2

The *distribution* of exports changed markedly (Table 5.5). During the 1880's, the principal mainland markets continued much as they had done in the 1870's, while the New Zealand trade halved. During the 1890's, the mainland trade almost halved while the New Zealand trade fell by one-third. New markets with Britain and South Africa had by then appeared and were eagerly sought after to offset the general decline. Improvements in the Australian economy, and the removal of inter-colonial tariffs with federation, enabled the mainland trade to recover in the 1900's but only to a level trivially higher than it had been in the 1860's, 1870's and 1880's.

Table 5.5

Markets for timber exports, 1880, 1909 [45]

Period	Average annual value ($ 000)	Proportion of value (%)									
		Australia					Overseas				
		NSW	Vic	SA	Other	Total	NZ	UK	South Africa	Other	Total
1880-89	100.9	7	45	27	8	80	19	-	-	1	20
1890-00	62.9	16	19	30	6	71	18	5	4	2	29
1900-02	81.9	13	24	21	1	59	24	9	7	1	41
1903-09	211.0	n.a.				49	n.a.				51

The growth of exports in the 1900's was due almost entirely to overseas trade and particularly to that with South Africa. Unfortunately Tasmanian export statistics do not provide details of country of destination after 1902, and the relative importance of the major markets of New Zealand, South Africa and Britain must be judged by other means. The import statistics for New Zealand show that imports from Tasmania remained at a very steady level between 1900 and 1913.[46] South Africa is judged to have been a larger market than Britain on the grounds that the mass of contemporary documents deal with the export of large quantities of railway sleepers and mining timbers to South Africa, but refer mainly to the difficulties of maintaining high quality for the fastidious British market.[47]

A comparison of the production and export statistics for sawn timber for 1902-1909 indicates that 52% of production was exported.[48] However a further reservation about statistical reliability must be made here due to the possible incompatibility of the statistics from the two different collections.

SAWMILLING AND THE STATE, 1880-1895

In the 1880's and early 1890's, Tasmanian sawmilling continued to expand, much as it had in the 1870's, on local capital. The new mills were similar to the larger mills built in the 1870's. Typically, logs were pulled by horses along 2-3 kilometres of wooden tramway. The mills were powered by 10-20 kW steam engines and equipped with large vertical frame saws to break down the logs, and circular saws for re-sawing and cross-cutting. About 25-30 men were employed of whom at least half worked in the bush. They put out about 60 cubic metres a week.[49]

Not only were increasing numbers of such sawmills being built, steadily extending their tramlines further into the forests, but settlers and speculators were looking for new land. The rounds of the resulting competition for the forested waste lands were marked by legislation.

In the 1870's capital in a sawmill or tramway that drew logs from the Waste Lands was always at risk for public land could be selected for agricultural settlement but not for timber purposes. The risk to sawmillers was aggravated because the access their tramways provided and the partial cutting of the forest made the land more attractive to selectors. As sawmilling expanded the best forest land acquired value for its timber, yet it was often the same soils carrying the best stands that also attracted the selector. Selectors often 'improved' their blocks by ringbarking the forest leaving the trees to die. Valuable timber resources were thereby diminished and by 1878:

> ... opinions of some of the most experienced sawmillers were unanimous that the supply was declining rapidly. But this arises not so much from the quantity of the timber cut as from the absence of timber reserves where the sawyer might precede the settler.[50]

In the 1880's, new settlers occupied only a small proportion of the 14,000 selections made; speculation and 'dummying' to extend existing holdings were prevalent.[51] Some blocks were selected in the middle of grazing leases or timber cutting areas merely to sell them at a profit in a form of blackmail. In response others were selected by graziers and sawmillers, or their nominees, to protect their investments. Repeated legislation in the 1880's and 1890's attempted to promote genuine settlement, but with little success.[52]

In the forest, the interests of manual timber cutters could conflict with those of sawmillers and selectors. Splitters took only the best parts of free-splitting trees, wasted many valuable logs, and sometimes:

> '... left the ground ... so covered with logs and heads of trees that many years must elapse before intending settlers will be found to select it for the purpose of clearing for cultivation'.[53]

In other cases the interests were complementary and generally, the small-holding settlement that took place in the Huon district was closely related to the timber industry. Many genuine selectors '... earn[t] the chief part of their living by working timber and preparing it for the market ...' or working in nearby sawmills while gradually clearing their blocks.[54]

In 1875, sawmillers in the Huon district proposed that settlement should be kept two years behind cutting to allow the timber to be removed.[55] In 1878, a Select Committee worried about the possible destruction of valuable species and made a sketchy report recommending that '... the falling of Huon Pine be prohibited, save under regulations to be made by the Governor-in-Council'.[56]

Legislation in 1881 provided that reserves '... for the preservation and growth of timber ...' could be proclaimed by the Governor in Council.[57] The reserves seem to have been intended as areas in which selection would be delayed only until the timber had been removed, to which end the Act provided that they could be altered or revoked on 60 days' notice. More enduring reserves, in which cutting could be prohibited by proclamation, seem to have been envisaged only for water supply or recreation purposes. Otherwise cutting was allowed under the same system of licensing cutters as applied elsewhere on Waste Lands of the Crown. Few reserves were created in the next few years as the press of survey and other work for the mining boom on the west coast absorbed most of the state's administration. By 1884, only 9,959 hectares had been reserved and the Deputy Surveyor-General urged:

> ...that State Forest Reserves be established all over the island, but at the present time principally in the new settled Districts where the wholesale destruction of very valuable timber is going on.[58]

By 1886, the area of forest reserves still only totalled 20,841 hectares and only 425 hectares were added in the next three years.[59]

In 1885, legislation enabled the staff of the Crown Lands office to be increased by the appointment of a 'Conservator of Forests':

> ... who shall have the management and control of all Waste Lands of the Crown which may be reserved to Her Majesty for the preservation or growth of timber, or for places of public recreation, and also of such other Waste Lands of the Crown as may be by the Governor in Council assigned to his care, and who shall perform such other duties as may be prescribed.[60]

The post of Conservator was filled between 1886 and 1892 and then allowed to lapse. Protection of the forest reserves, supervision of regulations and cutters was still left to one Timber Inspector and some 40 local policemen appointed as Crown Land Bailiffs.

The much-amended *Waste Lands Act* of 1863 was replaced with *The Crown Lands Act*, 1890 which enabled the re-named public lands to be leased for tramways, wharves, jetties or mill sites for a period of 14 years with an option of renewal for a further 14 years.[61] Otherwise licences to cut timber were still issued to individuals for up to a year at a time and sawmillers had no security of supply even from the forest reserves.

It was not until 1895 that sawmillers could take out leases on forest reserves, but their tenure was limited to 5 years and their area to 202 hectares.[63] Sawmillers had to pay for surveys of their leases and an annual rental of $0.05 per hectare.[62] By 1897, the Department of Lands and Survey had received applications for 13 leases over a total of 1,787 hectares.[63]

Thus by the mid 1890's, increasing numbers of small and moderately-sized sawmilling businesses obtained only very limited rights to state-controlled resources. Although the waste of valuable timber was well known, the slight increase in state administrative staff did little more than write a few reports.

THE EMPIRE, SAWMILLING AND THE STATE, 1895-1914

The spread of British capital and empire affected the timber industry in Tasmania by increasing exports and direct investment.

Mines were opened and railways built across southern Africa from the 1880's. Most of the railway sleepers and mine timbers had to be imported, largely from the Jarrah forests of Western Australia, but also from Tasmania after 1898.[64] Hewn sleepers were preferred to sawn and the market provided work at least initially for '... a large number of men squaring by hand ...' and some sawmills.[65] The trade was conducted by Tasmanian timber merchants, such as R.A. Robertson and H.E. Day, who visited and developed contacts with South African businesses and railways.

Greater trade and larger vessels, of both the merchant marine and the Royal Navy, needed new deep-water docks. The very long heavy piles that could be hewn from Blue Gum grown in southern Tasmania were ideal, and a flourishing but specialised export trade was developed not only for the harbours of Melbourne and Auckland, but for such emblematic structures as the Admiralty Docks in Dover (England) and Simonstown (South Africa).[66]

The first proposal to invest British capital in sawmilling came in 1897 as a subsidiary part of a proposal to build a cement works on Maria Island. A local agent requested that over half the island be proclaimed a forest reserve :

> ... with a view to a timber licence being granted whenever applied for [so that] this additional industry [sawmilling] would be an extra inducement to Capitalists in England to start the [cement] works without further delay'.[67]

Not only did the Minister and Secretary for Lands agree, but legislation was passed in 1898 to provide much greater security and scale of operation by extending the maximum area that could be leased in a timber reserve from 202 hectares to 2023 hectares and the period from 5 to 21 years.[68] Regulations were introduced for the orderly working of such large leases by dividing them into 10 equal blocks to be worked sequentially, and providing that as soon as a block was cut out it could be released for selection and the lease rental reduced proportionately. Sawmillers were required to build a mill of size proportionate to the lease area:[69]

Nominal power (kW)	Lease area (ha)
22	2,023
15	1,214
11	405
4	202

The regulations were shortly amended to require a lessee to erect '... good and effective machinery ...' within three months of receiving a lease and calling for larger mills to warrant the larger

leases, viz:[70]

Nominal power (kW)	Lease area (ha)
75	2,023
30	1,214
15	607
7	40

The 1898 Act also changed the manner in which revenue was collected. Although manual cutters were still licensed, sawmillers were charged royalties based on the quantity of timber they declared they had sawn from logs cut on Crown Land. Rates were set initially at $0.03 per cubic metre for Eucalypts and $0.15 per cubic metre for Huon Pine and Blackwood, but when the sawmillers complained the rates were halved.[71]

In 1899, the Lands and Surveys Department transferred one of their officers from the Stock Branch, appointed him Chief Forest Officer, and titled his administration the 'Forests Branch'. For the next twenty years the strength of the Branch varied from one to about four depending on how many Timber Inspectors were appointed. Their principal functions were the collection of revenues and later the certification of timber exports.

As soon as the Boer War (1899-1902) was over, African mining and railway construction proceeded apace, funded both by British capital and the fabulous wealth of the diamond and gold mines. The promise of the expanding South African timber market led to two companies being formed to exploit the forests of southern Tasmania: the Huon Timber Company and the Tasmanian Timber Corporation. Both built large mills - their development only proceeding with substantial legislative support.

Huon Timber Company[72]

The Huon Timber Company was promoted by R.A. Robertson. Robertson secured leases to 8,903 hectares of forest in the Arve and Kermandie River catchments behind Geeveston, and the active

involvement of John Geeves & Sons, owners of the local 'Speedwell' sawmill and 546 hectares of forest land. John Geeves secured the lease to a further 1,659 hectares, and with Osborne Geeves had a number of tramway rights including that to the old Liverpool and Honeywood Tramway. Robertson proposed to construct a large sawmill, a hydro-electric scheme and a local railway system.

In 1901, a private Bill was successfully promoted which consolidated the leases into one and provided an option of renewal for a further 21 years. This gave security of tenure for 42 years all told, which was comparable to the 40 to 60 year periods given to the larger mining companies. Although the lease was divided into 202 hectare blocks, several could be worked at once and only one sawmill had to be constructed. Rights for tramways, jetties and water were provided. Robertson persuaded a group of Glasgow capitalists, including two of the leading timber merchants, to invest and form the Huon Timber Company in 1902.

With plentiful finance the company built what was claimed to be the largest sawmill in Australasia. It was certainly the largest and most technologically advanced in Tasmania, being equipped with the latest Canadian machines. Instead of frame saws, the mill had two large band saws for breaking down the logs into flitches. Much of the manual handling was eliminated by new sorts of machines. Many of them were driven by electricity generated on the site. A substantial railway with metal rails was built into the forest. The original 10 kilometres of heavy construction were eventually extended by a further 54 kilometres, mostly of lighter construction. Instead of bullocks and horses, steam powered winches, known as 'steam hauliers', were used to pull logs from the forest to the rail lines, and four steam engines pulled trains of logs to the mill. By 1911, $210,000 had been invested.

Tasmanian Timber Corporation[73]

In 1900, the British Transvaal and General Finance Company Ltd, whose head office was in London, set up a subsidiary - the Tasmanian

Timber Corporation Ltd - registered in England. It appears to have been largely a family company. The company was interested in both grazing and sawmilling, and took up land in three places: on South Bruni Island, at Port Esperance, and around Southport. Grazing leases were secured for 14 years over 3,238 hectares of Crown Land and initial payments made to purchase 557 hectares, mostly of second class land, from the Crown. Five sawmilling leases were taken out in June 1900 over a total of 8,182 hectares. One lease of 2,023 hectares was on South Bruni, another of the same size was at Southport, and the others were in a consolidated block at Esperance. In the same month the regulations were revised, apparently at the suggestion of the Timber Inspector, to make the maximum lease area comparable with the power of the largest existing local mills:[74]

Nominal power (kW)	Lease area (ha)
19	2,023
15	1,416
10	405
6	80

The company built the 'specially powerful' Hopetoun sawmill at Dover (Port Esperance) in 1901-02 at an initial cost of about $112,000. Although the mill was larger than any previously built in Tasmania (it was built before the Huon Timber Company's mill), it did not represent any significant technological change.

In 1902, the Tasmanian Timber Corporation promoted a private Bill drafted much along the lines of the Huon Timber Company's Act. They sought greater security of tenure and the right to erect 1 large mill for all 5 leases rather than a separate one on each. Opposition came from smaller local sawmillers who objected to big mills '... taking over all the country ...' when their own requests for special reserves had always been refused. The resulting Act awarded the Tasmanian Timber Corporation a special lease which allowed them to work their Esperance leases to the Hopetoun mill and permitted them to delay building mills on the other two areas. Moreover it provided that the lease could last with renewal for 42 years.

Although the eventual cost of the mill, associated equipment, works and land was rumoured to have been $240,000, a balance sheet struck in 1908 shows that 40% of the assets (excluding properties) were spent on getting logs to the mill.[75]

Failure

Despite magnificent forests, large leases and extended tenure specially provided by the state, and although they appeared to be squeezing out small local mills at first, neither the Huon Timber Company nor the Tasmanian Timber Corporation was a commercial success. In 1906, the Tasmanian Timber Corporation was sold to other British interests and renamed the Tasmanian Hardwood Corporation.[76] By 1908, neither company had paid a dividend and both appointed an energetic local company, Henry Jones and Co., to manage their affairs. Henry Jones was primarily concerned in making jams but had diversified into boat building and sawmilling by taking shares in the Huon Timber Company. However Henry Jones failed to make the mills profitable and they were purchased, at a fraction of their cost, by Millar's Karri and Jarrah Company Limited. Millar's was then a predominantly British company which flourished by producing and exporting Western Australian timbers to South Africa, and had expanded into New South Wales, the Phillipines, Greece, France and England.[77] They were able to buy the Huon Timber Company and the Tasmanian Hardwood Corporation for about one-third of their cost. Millar's too were unable to make the Huon Timber Company profitable and eventually closed the Geeveston mill in 1924.

Whilst the imperial spread had appeared to provide opportunities for imperial capital to profit in Tasmanian production, the reality was disappointing. Western Australia, with better timbers and shorter routes, remained the major Australian supplier. In Tasmania, the largest mill, with its elaborately engineered railway, was probably too capital intensive to compete with a host of small mills built with wooden tramways and operated with more intensive use of cheap labour. But as we have seen, the addition of a large-scale imperial structure to what had been solely a small-scale local

industry effected changes to state legislation to meet the demands for greater protection of larger investments.

EXPORTS AND THE STATE

Opportunities in distant markets were sought not only by large British-owned companies with their own trade connections, but also by many smaller Tasmanian mills and merchants. Efforts beyond the means of most individual mills were needed, however, to get Tasmanian timbers accepted in new markets and to ensure their quality. The state responded, though in a half-hearted way, by promoting Tasmanian timber in overseas markets and by providing an inspection service.

Promotion

Although samples of Tasmanian timbers had been sent to London from the earliest colonial days, and the qualities of the better timbers (Huon Pine, Blackwood and Blue Gum) had secured some favourable reports, they were little known. Attempts were made to promote them in London but with little success.[78]

The entrepreneur H.E. Day made energetic attempts in 1903 to promote sales of Tasmanian sleepers to the South African railways. He received only brief and formal replies to his enthusiastic letters to the Lands Department, and when he at last managed to arrange for the South African authorities to test some sleepers, the Tasmanian Government sent only three, and then charged the South Africans for them![79] In 1905, the only promotional step to be followed consistently was taken when the Lands Department published a booklet of technical and commercial information which was distributed to overseas enquirers.[80]

Inspection

More than promotion was needed to increase exports for new opportunities could be easily lost if the quality delivered was poor,

as it sometimes was.[81] The problem lay in ensuring that products like railway sleepers and piles, for which long-lasting qualities were required, were cut from durable timbers like Blue Gum and Ironbark. Durable species generally grew intermingled with less durable ones, the woods appeared much alike and were indistinguishable to foreign purchasers, yet their performance varied greatly. The timbers were produced by many individuals or sawmills working and shipping from isolated locations and it was all too easy for inferior species to be 'palmed off' on buyers to the long-term detriment of the trade in general.

For major purchases, the British Admiralty sent out their own timber inspector to Tasmania, but this was hardly possible for other buyers and in 1905 the Lands Department provided a voluntary timber inspection service.[82] For a fee, the Department's inspector would examine and brand timber that met government specifications, and issue a certificate. Buyers very quickly took advantage of the scheme and called for certificates with purchases. Inspection did reject unsatisfactory material, but there were difficulties as inspection could only be arranged at sawmills or dockside.[83] It was too difficult for the inspector to visit manual cutters scattered widely in the forests and hewn sleepers, which the market preferred, were initially excluded from the scheme.[84] Railway sleepers were branded as they were being loaded on ship which did not allow the inspector sufficient time to examine them and resulted in thousands of quick rotting Swamp Gum sleepers being certified as durable Blue Gum in a shipment sent to the Egyptian railways.

In the affair of the *Ganges*, the failure of inspectors to reject unsuitable timbers in 1909 led to a well publicised parliamentary attack on the government of the day.[85] In 1908, an English firm acting through import agents placed a large order with Henry Jones, managing agents of the Huon Timber Company, for 822 very long Blue Gum piles. They asked the government to have the piles inspected, and the import agents sent their own representative to Tasmania. Four contractors duly cut the timber around Port Esperance and on Tasman's Peninsula. Inspector Dearden issued certificates covering

768 hewn piles and 158 sawn beams on the *Ganges*, and another 75 piles on another vessel, certifying them all as Blue Gum. However as the contractors admitted, and the local Crown Lands Bailiff confirmed, most of them were Stringybark. The *Ganges* sailed with what the Department believed to be 109 pieces of Blue Gum, 341 pieces of Stringybark and 110 pieces of quick rotting Swamp Gum. The Huon Timber Company and the import agents' representative sought 'cover-up' letters and certificates from the Minister of Lands and the Secretary of Lands. The matter went to Cabinet which, being afraid of the possibility of being sued for damages on account of the false certificates, finally decided to send a weak 'cover-up' letter to the English purchasers. Judging from the inspection fees collected (Table 5.7), the scheme was still used after the 1909 scandals but less frequently.

STATE REVENUES FROM TIMBER

Revenues from timber were obtained by the state for: licences issued to the sawyers and splitters (introduced in 1834), rents for timber leases and permits (introduced in 1895), royalties on the quantities of logs cut by sawmills (introduced in 1898), and fees for timber inspections (introduced in 1905). Ensuring that all were paid required adequate, efficient and honest administration, which was not completely established until the 1940's, so that the amounts collected (Table 5.6) were consistently less than they should have been.

Table 5.6

State revenue from timber, 1903-1939 [86]

Annual averages ($)

Period	Timber licence fees	Leases and permits: rents	Leases and permits: royalties	Timber inspection fees	Other
1903 -08/09	2,894	1,818	1,630	1,018*	
1909/10-18/19	2,472	3.206	2,872	622	94

* 1905/06 to 1908/09 only

Timber workers

The problem of ensuring that licence fees had been paid by cutters and splitters was an enduring one. The timber regulations were still supervised in most areas by policemen acting as Crown Lands Bailiffs, and the administrative confusions of the 1840's still continued in the 1900's. The 1890 Act provided that timber cut on Crown Land without a licence could be seized and sold but, though this was frequently done, unlicensed cutting continued.[87] The problem was worst on the west coast where 'the piners' cutting Huon Pine worked in the most isolated places. On an inspection of the King River in 1904, for example, the Chief Forest Officer found that:

> At no time were there an adequate amount of licences taken out for the number of men employed and there can be no doubt that the Department has lost a large amount of revenue in licence fees ...[88]

In this case, the Crown Lands Bailiff was suspected of collusion with a local sawmiller, blamed for negligence and sacked. A new timber bailiff reported that '... the pining industry has got into a fearful muddle and is the hotbed of larceny and chicanery ...'.[89] Even an honest bailiff could not readily get on top of the piners on his own and the logs he seized were sometimes seized right back again![90]

Sawmillers

Rents for leases were collected easily as the rights could be cancelled by notice in the *Gazette*. This was done, and the revenue obtained closely matched that due.[91]

Royalties on the quantities of timber cut on leases and permits were the major focus of conflict between sawmillers and the state administration in respect of both the rates at which they were set and the extent to which they were collected. Rates varied with species (Table 5.7), and were changed periodically (Table 5.8).

Table 5.7

Examples of royalty rates for different species[92]

	1898 ($ per m^3)	1918 ($ per m^3)
Eucalypt	0.02	0.03
Pine	0.17	0.50
Blackwood	0.17	0.50
Beech	0.17	0.13

Table 5.8

Royalty rates on eucalypt logs, 1898-1918 [93]

Date from		Rate ($ per m^3)
25 November	1898	0.033
21 June	1900	0.017
1 January	1905	0.033
October	1905	0.017
	1918	0.033

The case for higher rates was made consistently by the state administration. For example, the Secretary for Lands pressed for higher royalties in 1901-02 during his evidence to the Select Committees on the private bills for the Huon Timber Company and the Tasmanian Timber Corporation. In 1903, noting that the state had only collected $926 in royalties for timber with a market value of $100,000, he recommended restoring the rate to $0.03 per cubic metre which would still have been lower than in any other State. The government increased the rate in January 1905 but by October,

pressure by sawmillers on 'the powers that be' had succeeded in having the rate reduced back to $0.02 per cubic metre where it remained until 1918.[94]

When royalties for timber were introduced in 1898, there was no adequate administration to ensure they were paid; the system relied on sawmillers declaring the quantity they had cut and forwarding their payments. It was not until 1907 that millers were even required to keep registers of the logs taken from Crown Land. When an investigation was made, it:

> ... very clearly demonstrated the inaccuracy of the attested returns that had been supplied, while an examination of the Log Register Book showed that the measurements entered therein were fictitious.[95]

In spite of these reports, the state took no action to strengthen the administration and the collection of royalties remained a problem throughout.

FOREST RESOURCES AND THE STATE

The Acts of 1881, 1885, and 1898 provided some security for sawmills drawing on timber reserves, largely by delaying selection until timber had been removed, and the private Acts in 1901 and 1902 did give longer security to two large companies, but did not secure resources for the majority of sawmills that drew their supplies from public land outside the timber reserves or from private land. Continued land clearing and cutting depleted the easily accessible resources. By 1903 the stands readily accessible to water transport had been cut out, and sawmillers were having to log as far as 8 kilometres back from the coast.[96] This made sawmilling more expensive for the medium and large mills which had to invest capital in building immovable tramlines that could equal the cost of the mill itself. Apparently to make the limited resources available to more lessees the maximum area of lease was reduced to 405 hectares in 1903 but relaxed slightly to 607 hectares in 1911.[97] By contrast, the many smaller mills tended to be moved frequently to wherever small

easily accessible patches of timber could be found.[98]

While the need for resources by individual small capitalists could be met by mobility, and those of individual medium and large capitalists could be met by reserves and leases, the long-term needs of capital in general required policies to counter the depletion of the forest resources; that is, for the reproductive function of forestry.

Forestry was advocated in Tasmania at the turn of the century, not by individual capitalists concerned with production, but by officials and intellectuals in government reports and the *Proceedings of the Royal Society of Tasmania*.[99] A strategy of planting exotic species, such as English Oak and Radiata Pine, was put forward partly to replace imports of softwoods (which were costing 41% of the value of timber imports in the 1900's) and partly as the rough unseasoned timber produced in Tasmania presented many building difficulties.[100] The leisurely response by the state consisted only in setting aside a corner of the Botanic Gardens as an arboretum, starting two small tree nurseries in 1908, and planting small trials in 1916.[101] More usefully, in 1909, 47,349 hectares of young regrowth stands were placed in reserves, but only where the land was poor and in isolated situations where it was unlikely to be required for selection.[102]

Forestry was advocated not only by Tasmanians for Tasmania, but by Australians for the Commonwealth, and Britons for the Empire. Imperial concern for the deteriorating condition of Australia's forests was expressed by the Governor-General and in a State-by-State inspection and report in 1915 by D.E. Hutchins, a former Conservator of Forests in Capetown. He was appalled at the destruction of Tasmania's forests by clearing and fire, by 'reckless' grants to sawmillers, and the complete absence of any policy to secure the reproduction of the forests.[103] Interstate conferences on forestry brought together politicians and officials from the States and Commonwealth. Tasmania became increasingly involved, first sending the Government Botanist in 1911 and 1912, then the Premier and

Surveyor-General in 1916. In spite of all this, the Tasmanian state took no significant action during the period considered here, either to control the rate of resource depletion or to conserve its productive capacity.

THE FEDERATED TIMBER WORKERS UNION

The scattered and small-scale nature of production, combined with the prevalence of piece work, inhibited the assembly and combination of workers to pursue their common interests and made the management of a union, when established very difficult. A society that probably included some timber workers existed in 1890 but did not last.[104] Sporting contests - 'wood-chops' - brought axemen together from the turn of the century, but their association remained a sporting body.[105]

The transition from manual to mechanised production concentrated and settled workers, and as districts with several mills developed, such as the Huon, sufficient numbers were thrown together to permit organisation. In addition, the town mills diversified into joinery, furniture, and other wood manufactures, so that the workers and craftsmen making these goods strengthened the ranks of the timber workers.[106]

The creation of the Commonwealth Arbitration Court in 1904, and the passing of the Harvester award in 1907, that established the concept of a basic minimum wage, was followed in Tasmania in 1910 by legislation for State Wages Boards that could determine wages and conditions by agreement between representatives of employers and workers. With mainland help, new unions were established that could push workers' interests before State Boards and if necessary press for claims to be made in the federal arena. A union of timber workers was established from 1908 with help from the Australian Workers Union - established in Tasmania the year before.[107] By 1911, the Tasmanian branch of the Federated Sawmill, Timber Yard and General Woodworkers' Employees Association of Australasia, known as

the Federated Timber Workers Union, had listed workers throughout the State, though only 633 appear to have been financial members.[108] This gave the union an effective membership equivalent to about one-third of the total employment in sawmilling.

The union, which appears to have fallen away during the war, achieved little through the State Wages Board. By 1918, the men:

> . . . were thoroughly disgusted with the conditions under which they were working, they also bitterly complained re the administration of the [Tasmanian] Industrial Department [responsible for supervising State Wages Board awards] also having no protection under the Workers Compensation Act.[109]

The union was completely reorganised as the No.6 Tasmanian Branch of the Australian Timber Workers Union (ATWU-T). A new committee was formed, and an energetic Organising Secretary, W. Scanlon, enrolled 1209 members within the year.[110] Thus by the end of the period considered here, the union in Tasmania had become reasonably well organised and, although it had made little advance either by direct negotiation with employers or through the State Wages Board, was soon to join branches in other States in action before the Commonwealth Arbitration Court.

CHANGE AND DEVELOPMENT

We have considered at some length the changes that took place at levels of the world capitalist system, Tasmanian society, and the timber industry there, between the mid-1870's and the First World War. We can now review these changes and consider the articulations between these different levels and the structures involved.

The monopoly structure of production, that characterised the new stage of the world-economy, clearly superseded other structures in Tasmanian mining, but did *not* enter pastoral, agricultural or timber production which remained organised in small business and competitive structures. The spread of empire and the export of metropolitan capital, which also characterised the new stage, did result in substantial change however. Investment in South Africa doubled

markets for Tasmanian timbers and stimulated all structures of timber production. In Tasmanian mining, British capital took a particular form of association with Australian capital which was to govern much of the later development in the wood industries, and it was the rapid expansion of mining that stimulated economic growth and broke the stagnant inter-class relationships. The investment of British capital in a much larger scale of Tasmanian sawmilling did produce substantial changes to state legislation and administration. The factors of scale and capital source were confounded however, so that we can not say which was most important. We can see that state policies of concession, developed in the mining sector (dominated by the monopoly structure), were applied to the larger mills in the competitive structure of sawmilling. That is to say they were *not* unique to the sub-modes of production. Thus we have seen that substantial superstructural change was initiated not only by change between sub-modes, but by the addition of a different structure of production within the competitive sub-mode.

The state did little more than collect revenue and assist production by providing some security of tenure for the larger capitals against selection. Although it was well recognised that the forest resource was being wasted and destroyed, the state took no effective action to reproduce it. That is, the state did not act to reproduce the resource that would enable capital in general to be reproduced in the long-term. It only acted to secure production from the resource by small business and competitive fraction of capital, and the short-term individual interests of these did not need policies of forest conservation. The actions of the state in providing concessions to the new large mills and in establishing a timber inspection service can be described in terms of the theory that the state acts to meet the logical needs of capital. This model does not explain, however, why the state *failed* to act in the long-term general interests of capital (by reproducing the resource) or why the inspection service was so lax.

The period considered here ended with the First World War and the intent of Russia to pursue a path of socialist development. The

world-system within which the Tasmanian timber industry developed was fashioned quite differently in the subsequent period.

Chapter 6

TRANSITION AND INDUSTRIALISATION, 1920-1945

The tumultuous period of the two World Wars and the great economic depression between them contained the transition from one stage of the capitalist world-system to another; from monopoly and imperialism (considered in the previous chapter) to late capitalism and neo-imperialism (considered in the next). It was a period during which hegemony shifted, and the imperial characteristic weakened. After the First World War, it was the United States without an empire, rather than Britain with one, that became the economic leader; and it was the US that emerged from the Second World War as the undoubted hegemonic power of capitalism.

Between the wars, Britain attempted to recover her economy within the shelter of her Empire, and favoured Australia as a destination for investment. Australia added a policy of industrialisation to her traditional development strategy of expanding rural and mineral exports, and encouraged both British and Australian capitalists to manufacture and replace imports, or process raw materials before export. And manufacturing did expand though, given the vicissitudes of the period, most unevenly. In the Tasmanian wood industries in particular a kiln-drying process was added to season sawn timber artificially, and on a much larger scale the heavy industry of making pulp and paper was established.

In this chapter, we will outline the effects of depression and war on Australian development and on the existing structures of Tasmanian sawmilling. Then we will consider the addition of first, kiln-drying, and second, pulp and paper making. In this we will be concerned to see the relationships between the different structures of production, and between them and the state.

AUSTRALIAN DEVELOPMENT

New technologies were used for new production as electricity, oil, cars and aeroplanes took over from wood, steam, horses and bullocks. Electricity powered new factories and new appliances in the spreading suburbs. Hydro-electric schemes were expanded world-wide, and in Tasmania provided cheap power to attract new industries.[1] Motor vehicles so reduced the cost of transport on land relative to water that Bass Straight was turned into a barrier for Tasmanian timber. Bulldozers were able to build roads into previously inaccessible forests and road trucks superseded tramways for bringing in the logs. Petrol, diesel and electric motors replaced steam engines, which made it easy for very small sawmills to be built.

Australia's development strategy aimed to increase agricultural exports, expand domestic manufacturing, and attract British manufacturers to set up branch plants in Australia. It relied largely on British capital, and absorbed up to 43% (1925-28) of Britain's entire foreign lending to public authorities, which made Australia Britain's greatest debtor.[2] The Commonwealth and State governments spent the money, to very variable effect, on irrigation, electrification, roads, and telephones. To implement the strategy, the Commonwealth set up five new bodies:[3]

The Bureau of Commerce and Industry.

This Bureau was established in 1918 to advise British investors and coordinate British and Australian capital in manufacturing.

The Institute of Science and Industry.

The Commonwealth's industrial research body was expanded in 1919 and was later developed into the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Its purpose was to undertake research for rural industries, and to adapt manufacturing technologies, such as those for drying timber or making wood-pulp, to Australian raw materials.

The Tariff Board.

The Tariff Board was created in 1921 to protect the new industries. It was limited in what it could provide as Australia needed exports to pay British debts and the opposing rural interests were powerful ones.

The Loans Council and the Development and Migration Commission.

Tasmania considered that it fared poorly from State-Commonwealth financial relations and pressed 'The case for Tasmania' strongly on the Commonwealth arguing for new arrangements.[4] The Development and Migration Commission and the Loans Council were created in 1926-27 to investigate and coordinate the economies of the States and Commonwealth

The Australian development strategy began with confidence. At the start of the 1920's, building boomed in the capital cities. Australian capitalists, led by the Anglo/Australian Collins House group of mining companies, built or expanded factories and supported '... the definite determination by Australia to assist in making the Empire self-contained in essential commodities required in peace and war ...'[5] In Tasmania, a full-sized zinc refinery, confectionery and textile mills were built.

The Institute of Science and Industry went about its tasks vigorously and set up a small Forest Products Laboratory to service the wood industries. The research objectives were set in conferences of Commonwealth and State governments and guided by industrialists, particularly those associated with Collins House.[6] One task was to develop methods of artificially drying Australian timbers so that they would be good enough to replace imports of high quality dressed timber. By the early 1930's, the design of drying kilns had been improved and a 'reconditioning' process invented to overcome problems of internal collapse that occurred with eucalypt wood. Another task was to develop methods of making pulp from Australian woods that could replace imports by existing paper manufacturers and more importantly enable new manufacturers to start. This research was

remarkably successful; by 1924 printing and writing paper could be made on an experimental scale, and by 1927, newsprint.[7] In both cases, the Commonwealth research followed studies by the States during the First World War which had come to naught.[8] The Commonwealth's researchers worked very closely with sawmillers and industrialists in extending the research results into commercial practice.[9]

Manufacturing was not expanded easily, given the small size of the internal market, the limited protection that the Tariff Board could supply, and the economic crisis of 1922 which stopped the post-war housing boom. All expansion ceased in the world-wide economic crisis of the Great Depression (1929-32).

The severity of the Great Depression in Australia, exacerbated by the burden of British debt, is well known: manufacturing contracted, exports halved, half a million were unemployed, destitution became a mass phenomenon.[10] Although we need not elaborate, we can note that the emergency measures devised by the Commonwealth and State governments included schemes such as planting trees in Tasmania that employed men in return for sustenance wages.

In the second half of the 1930's, the world and Australian economies gradually started to recover, and new ventures, such as making paper in Tasmania, commenced. Although the gradual recovery enabled Tasmania's exports to almost double by 1938-39, from the trough of the depression, the State's economy was far from robust. Doubled government spending (largely on hydro-electric, railway, and to a lesser extent plantation schemes) increased employment, yet 9% of unionists and 16% of timber workers were still unemployed in 1938-39.[11]

The Second World War abruptly changed economic conditions by calling many to arms, demanding great quantities of material, and cutting Australia off from world trade. The Commonwealth directly controlled the war-time economy.[12] Many aspects of production and consumption were regulated; materials, transport and workers were

allocated to the most important industries, inessential products were eliminated, and rationing and conscription introduced. Secondly, the economy was closely planned: wages, profits, and the prices of essential commodities were controlled, income tax was unified in all States, and capital investment and borrowing were constrained to essential projects. The regulatory system was applied through existing commercial institutions so that the structure of capitalism was preserved while defence needs were met.[13] Thirdly, the propaganda of war exhorted workers to greater effort and savers to further thrift. Manufacturers who had struggled to establish factories in the 1930's suddenly found they were required to expand, diversify and produce as never before. Overall, the war established Australian manufacturing on a firm footing.

TIMBER MARKETS AND MILLS

After the First World War, the imperial markets that had taken up to half of Tasmania's timber exports collapsed.[14] On the mainland the post-war boom of suburbanisation did increase consumption, but Tasmanian timbers faced fierce competition from mainland sawmills as well as North American and Baltic imports. Markets within Tasmania did improve somewhat, stimulated by hydro-industrialisation, but not from building since the population increased at only half the national average. The production of sawn timber in the first half of the 1920's was barely (6%) above that in the previous decade. By contrast, the production of apples, and hence the demand for wooden cases, more than doubled.

The post-war demand for building timber subsided quickly. By 1922, the industry was 'severely depressed'. In 1925 the Tariff Board, unswayed by evidence from the Forestry Department, allowed cheap timber to be imported virtually without restriction. By 1926 many sawmills had closed; many were working only part-time, and those that were left could scarcely have been profitable.[15] By 1929, 44% of the sawmill workers had lost their jobs. In 1930, a prohibitive

tariff was introduced on imports of Baltic timber and large sizes of Oregon, but conditions only worsened.[16] The industry recovered only gradually from the mid-1930's.

The Second World War completely changed the picture and Australian timber was in keen demand as imports fell. Although there were numerous war-time production difficulties, competition was virtually eliminated. Timber and plywood prices were set, and adjusted periodically to allow for wage and cost increases, by the Commonwealth's Prices Commissioner, which allowed most sawmillers to make steady or improving profits.[17]

Table 6.1

Sawmills statistics: Decennial averages, 1920-1949 [18]

Period	Number of sawmills working	Annual volume sawn (m^3 000)	Average number of workers per mill		Average power per mill (kW)
			incl. bush workers	excl. bush workers	
1920 -23/24	143	138.0	12.3		12.3
1924/25-28/29	164	122.4	7.9	5.2	16.9
1929-30-33/34	194	106.9		4.0	18.6
1934/35-38/39	215	186.6		6.4	22.4
1939/40-43/44	212	230.7		7.7	35.2
1944/45-48/49	274	238.9		7.0	52.3

Table 6.2

Number of sawmills by employment class in selected years [19]

Number of employees	1920 (Bush workers incl.)	1929/30 (Bush workers excluded)	1938/39 (Bush workers excluded)	1948/49 (Bush workers excluded)
4 & under	28	81	77	174
5 - 20	74	100	116	143
21 - 50	17	7	16	13
51 - 100	6	-	-	5
Total	125	188	209	335

The overall pattern of Tasmanian sawmilling (Tables 6.1, 6.2) was composed of divergent developments in the several structures of production, which we will consider separately.

In the competitive sub-mode, four structures operated:

i) Kiln drying plants

Two large-scale kiln drying plants were built at the end of the 1930's (detailed later), and kilns were added to a few of the largest sawmills.

ii) Town sawmills

The main timber merchant/sawmilling businesses catering to local markets survived the depression, prospered during the Second World War, and expanded rapidly afterwards.

iii) Large sawmills

The largest sawmills, such as those built by the Huon Timber Company and the Tasmanian Timber Corporation (Chapter 5) were owned by British capital and cut mainly for the export market. The highly capitalised Huon Timber Company became the focus of capital-labour conflicts (described later) and closed during the depression.

iv) General forest sawmills

The general forest sawmills that cut rough sawn green timber were in a very dependent position in the industry and bore the brunt of the depression. The mills were mostly small, had very limited administration or working capital, and sold their timber monthly as it came off the saw. Some went to Tasmanian timber merchants or later to the kiln drying plants, but much of it went to timber merchants in Melbourne or Adelaide. Only two or three Tasmanian millers were large enough to support their own yards and sales staff on the mainland.

The mainland merchants dominated the Tasmanian forest mills for four reasons. Firstly, the largest merchants (Gunnersen, Le Messurier and Alstergren) built up an interstate network of interlocking interests that gave them a particularly strong position in the market. Secondly, they were also importers who could juggle foreign and Australian timbers in the market. Thirdly, the merchants both graded the timber and sold according to grade. Tasmanian sawmillers complained that they were often defrauded and that the general reputation of Tasmanian timber was impaired when merchants palmed second grade timber off as first.[20] Lastly, the merchants could afford to lay out working capital for seasoning the best timber. This was particularly important for eucalypt timber which warped and cracked if dried quickly. The remedy - of gradual air drying in covered stacks - took 12-24 months, depending on thickness, and required capital in stocks, yards and sheds, as well as market forecasts of quantities and dimensions. Although advocated by the Lands Department since 1905, only a few of the larger Tasmanian sawmills could afford it.[21] Once seasoned, the merchants could profit by dressing the timber into high value flooring, boards and mouldings.

Throughout the 1920's and 1930's, the general forest sawmills remained stagnant or depressed. Some mills closed, but many others, as we shall see, resorted to petty chiselling on wages and cheating on royalties to reduce their costs. To decrease the effective wage rates, some sawmillers introduced 'the cooperative system of working' whereby a crew working a small mill was paid piece rates for the quantity produced and left to split the amount between themselves, while others leased small mills to one or more of the workers.

The small business mode of production applied to a large number of small mills, including those leased by the workers. Two structures can be recognised, though many mills operated in both:

i) Small forest sawmills

These mills competed in the market with the sawmills conducted

under wage relations. They required little capital and perhaps as many as 100 were built immediately after the Second World War - we will consider this expansion in the next chapter.

ii) Small case mills

The small mills that cut case shooks were often owned and operated by the orchardists themselves to meet their seasonal demands. There were about 40 case mills in 1913 and about 30-40 more were built in the 1920's and 1930's as apple production rose.[22]

THE AUSTRALIAN TIMBER WORKERS UNION

The Tasmanian Branch of the Australian Timber Workers Union (ATWU-T), which had been reorganised at the end of the First World War, pressed the union's Federal Council to action in the Commonwealth Arbitration Court. Useful gains in wages were made but quickly lost to inflation during 1919-20, so that wages '... did not cover the amount necessary to secure the ordinary comforts of life ...'.[23] Fresh claims were pressed.

Awards could only be obtained with legal costs which the small union raised from special levies of $0.10-0.20 a week. Like the annual dues of $2.00 a year, levies were hard to collect from the scattered workers, and it was a continual battle to lure all the workers to join the union.

Although awards were obtained, the union had to battle before the workers were paid. It was particularly hard to combat widespread petty chiselling in the smaller mills where workers feared for their jobs and hesitated to give public evidence. Nevertheless the union did bring breaches of awards before the courts which, even though they imposed paltry fines, served to legitimate the union and enable the Secretary to claim, perhaps with some exaggeration, that '... the union had compelled employers re hundreds of breaches of awards re holiday pay and retrospective pay ...'.[24]

In remote places, the sawmills provided shelter for their workers. Often this consisted merely of huts which the workers hired during the week, returning to their homes at weekends. Larger mills rented simple houses to married workers and sold the staples of life from company stores. Such stores were commonly the prerogative of mill managers who operated them on the 'truck' system in which purchases on credit at inflated prices were deducted from wages, and affairs arranged so that the net balance paid in cash was as small as possible.[25] Access to many mills was difficult, especially in winter, and to some only practicable by company transport; once engaged many workers and their families could not leave their masters readily.[26]

Unions attempted to improve conditions through legislative reforms introduced by the Labor Party. The truck system was formally broken by Parliament in 1920, though it lingered on for a decade or so.[27] The union induced Health Department inspectors to require remote company hamlets to meet public health standards.[28] Trying to obtain safe working conditions in the mills was a harder job as Tasmania's safety legislation lagged far behind other States'.[29] The union persisted, complained, and managed to get some minor matters corrected, such as the never ending problem of inadequate first aid boxes. In all, the union achieved progressive improvements though, with never more than one or two officials and a few disinterested state inspectors, the rate was very slow.

Employers countered union gains by collective advocacy in the Arbitration Court and Wages Boards, with innumerable pettifogging circumventions of awards, by discriminatory hiring and firing, and by direct action. In the 1920's, the union called local strikes in several cases where members or stewards were sacked, as it considered, unfairly, and succeeded in some cases in obtaining reinstatement.[30] However it was hiring non-union labour to work a 48 hour week - when the 1920 Timber Workers Award provided for 44 hours - that provoked the largest, longest, most violent dispute in the Branch's history. This dispute in 1921-22 can be seen as the first round of what was to become a successful campaign by Australian sawmillers and timber merchants to restore the 48 hour week.

The dispute arose where the greatest number of workers were assembled, in Huon Timber Company's mill at Geeveston which appears to have been completely unionised.[31] The company, which had hardly ever been very profitable, reacted to the change from 48 to 44 hours per week and rising wages by increasing mechanisation and direct confrontation. At first, the company tried to increase the intensity of labour by requiring the bush workers to camp out in the forest during the week to save the time spent travelling daily to their homes in Geeveston; this the men refused.[32] Next the company tried to break the new conditions by having some railway re-alignment work carried out by sub-contractors, who firstly tried to get unionists to work under non-award conditions (48 hours per week at $1.25 a day vs. 44 hours per week at $1.50 a day), and when this failed, employed non-unionists. The company had chosen a propitious time for confrontation as the depressed state of the timber trade had led to extensive unemployment, the closure of several sawmills, and a huge stock (21,000 cubic metres) of unsold timber in the mill yard. The company closed the mill in August 1921 for re-modelling and kept it closed, locking the timber workers out. Some other employers joined in the lock out.[33]

On the federal level, the sawmillers applied to the Arbitration Court to have working hours set back to 48 again. To fight the court case and aid perhaps as many as 500 workers locked out, the union was forced to appeal to the public and the labour movement at large for financial assistance.[34]

In Geeveston, the dispute became more violent as the months passed. The union organiser was threatened with a revolver, the few non-union 'scabs' working on the railway were assaulted, and their boarding house and the stores which supplied it were boycotted. After six months, the Premier called a conference of mill owners, unions and parliamentarians, to no avail. After nine months, part of the boarding house was blown up. After ten months and a further unsuccessful attempt at settlement, the contractor was attacked, and an attempt made to derail the train taking the scabs, now armed with revolvers, to the job. After twelve months, even though the scabs

were protected on the job by armed police guards, they were still assaulted if they left their boarding house. Never more than a token force of 2-6 non-union workers would risk working there.[35] The overall effect of concentrated local opposition was to prevent the company carrying out its re-alignment work.

For the union, the Geeveston dispute provided only a pyrrhic and short-lasting victory; the mill closed soon after, and in 1923 the Arbitration Court reduced margins for skill and put the weekly hours for bush mills back to 48. In 1929, the Lukin award put hours for the remaining timber workers back to 48, decreased wages for skilled and juvenile workers, and legitimated crew pieceworking by the 'co-operative system'. Whereas the branches in New South Wales and Victoria carried out a long and bitter campaign against the award, only to be beaten by strong well-organised action by the employers, mass meetings of the Tasmanian branch in Hobart and Launceston were almost unanimous in deciding to work the 48 hour week and agreeing to abide by the Lukin award.[36] As the unions feared, the Lukin award undermined their status. Its acceptance in Tasmania without a fight and its forced acceptance elsewhere can only have dispirited the workers. As the depression worsened and job seekers waited at the mill gates, millers found it easy to frown on unionists. The weakened and impoverished Tasmanian branch simply faded away.[37]

The federal organisation of the ATWU survived the depression and was able to start the Tasmanian branch up again in 1936. Even though meetings were well attended it was a long slog to get hard-up workers to sign and pay.[38] Although production and employment were increasing, prices and profits were so low that many small mills only just managed to stay open; wages, working and living conditions stayed grim.[39]

The union relied on state rather than direct action to improve conditions. It asked the government to build better roads. Several prosecutions were launched for breaches of the award but local Police Courts, which imposed only trivial fines, were of little use against mills without the capacity to pay award wages.[40] An additional

lever was provided by the Labor Party, returned to power in 1934, which amended the *Forestry Act* to enable forest permits to be cancelled if award wages were not paid.[41] The legislation had little more than threat value as the Forestry Department, unwilling to investigate sawmillers, insisted on sworn evidence which employees in small mills and remote communities could scarcely give; moreover its application might have closed mills and lost jobs for the very workers it was designed to help.

The decades-long situation of more workers than work changed abruptly with war; many were called to arms, the new pulp and paper mills took a thousand more, the sawmills were in full production and there was a shortage, particularly of skilled labour. The union continued to press claims in the Arbitration Court and shared in slight gains made generally from the mid-1940's.[42] It was in having the awards implemented that more substantial gains were made, for profitable mills could afford to pay and employers could no longer cheat and chisel with impunity. Even 'ideal living quarters' were provided when a new mill was built at Adventure Bay.[43]

The Man Power regulations prevented a worker from enlisting or leaving his job without state permission, and prevented an employer from dismissing a worker, except for serious misconduct.[44] The regulations were not applied as draconian instruments to oppress the working class, on either national or local levels. For example in 1942 a dispute broke out in two mills at Launceston when employers introduced non-union labour and reported the resultant strike to the Man Power Directorate. However, the Directorate did not enforce a return, and when the union threatened to apply to have a forest permit of one of the mills cancelled (under the terms of the *Forestry Act, 1938*), the sawmillers gave in and allowed the union to sign up the non-unionists.[45] In all, the Union became solidly established during the war.

THE TASMANIAN TIMBER ORGANISATION

In the 1920's, Tasmanian sawmillers were faced not only with an organised and militant union but with increasing subordination to mainland merchants, the needs to control the quality of exports, to keep royalty rates down, and the possibility of having to pay for forestry work (something that was being advocated more frequently). Common action by local groups of millers had occurred from the 1870's, but it was not until the 1920's that three district sawmillers' associations were formed - presumably in response to the 1920 Award and the 1921-22 strike.[46] During the Huon strike the district associations were coordinated through a Central Executive, which spent $16,000 on industrial representation.[47]

The Tariff Board, in refusing protection, had criticised the industry's efficiency. This stimulated the State government and the Commonwealth's Development and Migration Commission to call a conference in 1927. The many small and hard-up working sawmillers were induced to attend, with free rail passes for the journey to Hobart. The meeting resolved to form the Tasmanian Timber Organisation (TTO), argued about how it was to be financed, whether timber importers should be excluded, and agreed that timber should be inspected and graded before export.[48]

The TTO was incorporated in 1928 with the objectives of providing insurance, promotion, mainland distribution yards, finance for seasoning facilities, shipping, and generally '... to safeguard and protect the interests of the timber industry of the State in all matters.'[49] There was no mention of labour relations, but there was no doubt what the TTO intended. A few months later it interpreted 'all matters' to include '... Arbitration Court proceedings, Wages Board hearings, [and] industrial matters generally ...'[50] These were hardly expressions that would have endeared the TTO to a Labor government, but by then the National Party had come to power.

The Labor government had agreed to find $6,000 to promote Tasmanian timber, and had legislated for a toll ($0.03 per cubic

metre) to be collected by the Forestry Department on all timber cut.[51] Expenditure was supposed to be made against a programme of work agreed with the government. While generally pleased by the formation of the TTO, the Commonwealth's inspectors deplored the extra work imposed on the struggling Forestry Department.[52]

The TTO started quite energetically by appointing 6 inspectors to grade timber prior to export, but their cost exceeded the toll and the scheme was dropped.[53] As the depression deepened, sawmillers lobbied for reduced royalties to offset the toll, while the Forestry Department struggled to maintain them and hence its revenue. The TTO retained its industrial officer and did not lodge its programme of work with the government, but it was internal divisions that made it largely ineffective.

The government, thoroughly exasperated by the TTO's squabbles, laid down that funds supplied publicly could not be spent on industrial representation, cancelled the toll, and told the TTO to get itself in order.[54] The TTO did amend its constitution and the government provided a grant of $2,000 pounds a year, but no levy.[55] To continue their fight against the workers, the sawmillers formed the Sawmill Owners Association outside the TTO which set up a separate fund called the 'The Tasmanian Timber Employers' Industrial Committee'.[56]

The TTO had to tailor its activities to its grant. It lobbied the government for lower royalties and against the Forestry Department making 'large expenditures' on planting pines; otherwise its activities were trivial.[57] Neither cooperative seasoning works nor mainland distributing yards were set up, and Tasmanian timber, mainly air-dried and ungraded, competed poorly in the Melbourne market.[58]

The Tasmanian Timber Association

War-time conditions increased the need for common action by Tasmanian sawmillers. The TTO suddenly had to negotiate the distribution and price of timber with Commonwealth officials. As

usual, the TTO negotiated with the State government on royalty rates, though this process was eased by the existence of Price Control which allowed higher sale prices to cover higher royalties. By 1943, it was clear that the TTO needed $6,000 a year and a full-time executive to cope with the business, and that higher grants from the government could not be expected - indeed, given the opposition of the ATWU-T within the Labor Party, it was doubtful whether even the existing grant would continue.[59]

The first proposal re-activated the idea of a toll, but the government insisted that any toll it collected could not be used against workers.[60] Instead of bowing to the government, the sawmillers decided to re-form their organisation without government assistance; not only did they need to be represented more frequently in the Arbitration Court, but as they were making steady profits, they could afford to.

The Tasmanian Timber Association (TTA) replaced the TTO in 1945. A full-time manager was appointed and the voluntary membership grew quickly to 116 firms, covering about 90% of the industry. Membership fees were proportional to the volume cut. From its start, the TTA not only continued the activities of the TTO, but also appeared in the Arbitration Court opposing union claims for increased wages, shorter hours, or easier working conditions.[61]

SEASONING, PLYMILLING AND MAINLAND MERCHANTS

So far, we have established the fluctuating fortunes of the main structures of timber production and the organisations of capital and labour. We will now consider the addition of the new structure of kiln-drying - and incidentally a plymill - owned by mainland merchant capital.

The Commonwealth's successful research into artificial seasoning of eucalypt timber was designed to improve its quality and enable imports to be replaced. Kiln-dried timber was much more uniform and

reliable in use than air-dried timber. Generally kiln-drying was used on timber air-dried for only a few months, which meant that much less working capital was required. In production, less over-dimension cutting was needed to compensate for uncertain shrinkage, and kilns were readily combined with dressing and moulding processes. Thus kiln-drying facilities became the key to the most lucrative markets for boards, floorings and mouldings.

The advent of practical methods of kiln-drying their own timbers appeared to offer sawmillers a chance to break the stranglehold of the timber merchants and compete with imports. The largest sawmillers in Victoria and Tasmania built kilns. For example, Henry Jones added a drying plant to their Warentinna mill in the north-east of Tasmania in 1934.[62] But the smaller mills needed to amalgamate or cooperate to afford them.

A group of sawmillers in the north-west of the State did join together in 1924 and proposed to float a company with a capital of $2 million to undertake sawmilling, seasoning, marketing, and furniture making on a large scale. They secured a concession over the fine forests of Blackwood and other high-quality woods, growing on rugged and inaccessible Crown Land between the Arthur and Pieman rivers, but they could not raise enough capital during the depression and the proposal lapsed.[63]

Co-operative kilns and mainland timber yards were envisaged in the TTO's objectives in 1927, and were suggested again in 1929 by the Development and Migration Commission. By 1931, four of the Forestry Department's staff had been to training courses in seasoning held at the Commonwealth's research laboratories in Melbourne, and were assisting Tasmanian sawmillers to set up kilns; mostly to dry apple cases.[64]

The timber merchants were threatened by possible losses to their seasoning and dressing business, their sales, and their import business. Threats to the larger timber importers were increased by the prohibitive tariff placed on imports of Baltic timber in 1930 which was designed to protect kiln-dried Australian timber on the

market.[65] To preserve their sales, the timber merchants had to enter Australian production and set up their own kilns. For example, the Kauri Timber Company built kilns in South Melbourne to process air-dried timbers bought from Tasmanian and Victorian mills.[66] Three of the largest merchants, who were also substantial importers, combined to set up production in Tasmania.

Mainland merchants[67]

The three mainland merchants - Gunnersens, Le Messuriers and Alstergrens - that set up in Tasmania, were private companies. They were largely owned by the families and descendants of their founders, who had built up a network of interlocking businesses in the main eastern States. None of them was large and they pooled their capital, probably as much by necessity as choice, to establish two kiln-drying plants - one at Stanley in 1936, the other at Launceston in 1937 - and a plymill at Somerset in 1942.

Circular Head Timber and Kiln Seasoning Co[68]

In 1936 these three merchants formed their first joint venture in Tasmania __ the Circular Head Timber and Kiln Seasoning Co - and built drying kilns on the waterfront at Stanley in the north-west. Timber which had been cut at a number of small independent forest mills was sent by rail to Stanley for drying and dressing, after which it was sold by the partners on the Adelaide and Melbourne markets.

The company amalgamated with local sawmillers, Dunkley Bros, who had sawmills at Smithton and Stanley, to form Circular Head Amalgamated Timbers Pty Ltd. This amalgamation enabled sawmilling, based on a log input of some 30,000 cubic metres a year - a large scale for Tasmania then - to be integrated with the kiln drying and dressing facilities.

Kilndried Hardwoods[69]

In 1937, Kilndried Hardwoods Pty Ltd was formed between Alstergrens and Holymans, a Tasmanian shipping company, with lesser shareholdings taken by K.D. Atkins, a Tasmanian sawmiller, and both Gunnersens and Le Messuriers.

An air-drying yard, sheds, 8 kilns, and 2 reconditioning chambers were built at Launceston. Machinery was installed to dress and mould the dried timbers, and later a sawmill was added.

The company operated in several ways. It sawed, dried, dressed and sold its own timber; it bought green or air-dried timber from small sawmills and processed it further; it also kiln-dried timber on contract for other millers.

Tasmanian Plywood Mills[70]

At the start of the Second World War, Alstergrens bought several Tasmanian sawmills, including one at Loongana in north-western Tasmania, to offset their loss of imported timbers. To offset the loss of plywood imports, the merchants formed a third joint venture - Tasmanian Plywood Mills Pty Ltd - to build a plymill at Somerset in northern Tasmania.

The Forestry Department issued a permit for a forest area in the Leven catchment near Loongana that contained the highest quality logs required for making plywood. As the area was steep and inaccessible, the company had to build substantial roads as well as wooden tramlines. Both bullock teams and steam-powered winches with lowering gear were used for logging. The logging was integrated to produce logs for both the sawmill and the plymill.

In spite of war-time difficulties, the plymill was started in 1942. Techniques for processing Tasmanian timbers had to be developed, and new skills acquired by the workers. At first the factory produced only rotary-cut veneer - from Myrtle and some Tasmanian Oak - which was pressed into ply by a Sydney manufacturer. As this proved successful, a press and other machines were added in 1943

enabling standard sheets of furniture grade plywood to be produced. At first, the quality of the sheets is said to have been poor, yet so intense was war-time demand that everything the factory could produce was sold.

The new structure

The addition of kiln drying to Tasmania was clearly a development in the sense of further industrialisation. It was achieved by only a few of the larger sawmills and notably by the mainland merchants (but *not* by the bulk of the small mills which remained as suppliers to the merchants). The merchants realised the advantages of integrating sawmilling with kiln seasoning and plymilling, and did start to take over and construct sawmills. Hence the existing mills were threatened by competitors in the hands of the very merchants who dominated the trade. The resulting conflicts between the old and new structures significantly affected relationships with the state. We will return to these after we have considered the addition of the second new structure - pulp and paper making.

PULP AND PAPER MAKING

In contrast to sawmilling, pulp and paper making in Tasmania was a large-scale heavy industry which used great quantities of energy in complex mechanical and chemical processes, and employed specialised workers, tradesmen, scientists, technicians, accountants and managers. The two Tasmanian mills were huge in comparison to the sawmills; their engines had more than three times the power of those in the two hundred sawmills, and they added 1,000 people to the workforce.[71] They made different products, avoided competition with each other, and were operated by some of Australia's largest companies in the monopoly sub-mode of production.

The Australian market used several major types of paper and paperboard (cardboard), and a host of minor ones. The local companies made about 42,000 tonnes a year in the 1920's, which

supplied only about 20% of total paper consumption but 75% of the market for wrapping paper and paperboard.[72] The paper was made partly from straw, rags and waste paper, and partly from wood pulp, mostly imported from Scandanavia. One mill made strawboard, while the others made mostly wrapping paper and paperboard, with smaller quantities of other grades. Australia did not make any pulp from its own wood. Imports of newsprint, printing and writing papers were large enough to present an opportunity for domestic manufacturing (Table 6.1), but sufficient raw materials could only be obtained from the forests, which meant that the technology of pulping Australian woods had to be mastered.

Table 6.3

Imports of paper, paperboard and pulp, 1920's[73]

Annual averages, 1922/23 - 1928/29 (tonnes)

Major Type	Quantity
Newsprint	112,746
Writings, Printings	24,831
Wrappings	13,150
Paperboard	10,938
Tissues	1,806
Blotting and Cartridge	934
Total (Major types only)	164,415
Wood pulp	13,310

The first stage of making paper from wood - logging - involves much the same processes as producing logs for sawmills, although pulpwood can be cut from crooked or irregular trees or the heads left after sawlogs have been removed, as long as the wood is sound. At first pulpwood was cut - by hand in the forest or by sawing in the mills - into billets small enough to fit grinding or chipping machines. Later huge machines were built that could devour whole logs at one pass. The next stage of production - pulping - involves breaking the wood down into a pulp either mechanically (by grinding

it), chemically (by cooking it with chemicals under pressure), or in various combinations. The mechanical processes consume very large amounts of energy and are used to produce the cheaper grades of pulp used in newsprint. Chemical pulp mills require expensive recovery plants to recycle some of their chemicals, and need to be large to be economically efficient. The chemical processes are used for most of the stronger wrapping papers and for fine printing and writing papers. The pulp is commonly bleached, and several pulps with differing properties are usually blended for a particular type of paper. The final stage in which paper is made requires the largest, most expensive and complex machines in the wood industries - one Tasmanian machine makes a sheet of newsprint 6.6 metres wide at a speed of 760 metres per minute. A number of services - water, steam, electricity, waste disposal, workshops, laboratories, administration, and so forth are required to support the processes.

Before mills could be built in Australia, substantial barriers had to be overcome: the Commonwealth's laboratory research into making pulp from Australian woods had to be developed on a commercial scale; wood, water and power resources had to be secured; large amounts of capital had to be mobilised; the price of Australian paper had to compete with imports; and Australian newspapers and printers had to be persuaded to buy it.

The economic actors

Throughout the 1920's and 1930's, three major groups of capital weighed the new but uncertain opportunities and jockeyed for position, sometimes acting together and sometimes in competition. The depression delayed development but the structure that emerged left each group with a near monopoly over separate sectors of the market. The groups were:

- the Collins House group of mining companies,
- the existing manufacturer, APM, and
- some of the newspaper companies.

Collins House represented the largest concentration of capital in Australia, was closely linked to Australian banks and British

firms, and could mobilise substantial funds. After the First World War, Collins House financiers sought to invest capital in manufacturing, and evaluated the paper industry.[74] Although not experienced in the paper industry, Collins House companies were highly successful in developing sophisticated technologies for mining, were intimately connected with the Commonwealth's research, and overall had the finance and ability to start a new heavy industry.

In 1920, the two largest Australian paper manufacturers amalgamated and, in 1926, took over two smaller companies to form Australian Paper Manufacturers Ltd (APM) which thus became the sole domestic manufacturer.[75] Production relied on traditional skills and APM did not then have the scientific expertise to develop pulping processes. The possible entry of new manufacturers threatened APM, both in its existing markets and from possible tariffs on imported pulp.

The newspapers too felt threatened. The world newsprint market was strongly competitive and prices low, but a domestic manufacturer carrying as much weight as Collins House might secure tariffs on newsprint that would force their costs up. Like APM, the newspapers had to consider manufacturing themselves not only as an opportunity but also as a defensive strategy. In the 1920's, the ownership of newspapers began to concentrate, but even so the two major proprietors - the Herald and Weekly Times Ltd and the Fairfax Group - had to form a joint venture to make pulp and paper.[76]

The state, controlling resources of wood, water and electricity, was the fourth major economic actor. Proposals to build pulp and paper mills fitted well into the Tasmanian policy of hydro-industrialisation and the state responded by granting concessions and privileges, much as it had done previously for mining and metal processing and for the large British sawmills built twenty years before.

Acting between the major groups of capital and the state were the 'promoters'. These were individuals or companies given standing in legislation granting forest concessions. In some cases they were

merely formal representatives of particular companies, but in others they were individual entrepreneurs who initiated proposals, solicited capital for companies they floated, and negotiated concessions with the state.

THE BURNIE MILL - APPM

Collins House wanted the major market for newsprint rather than the fine paper market for printings and writings which, although initially more promising technically, was smaller and partially occupied by APM. From the early 1920's the possibility of manufacturing at Burnie, in north-west Tasamania, was pressed by Gerald Mussen, an industrial consultant to Collins House.[77]

Collins House, through its investment company, Amalgamated Zinc (AZ), agreed to buy the site for a pulpmill at Burnie and 50,700 hectares of forest, known as the Surrey Hills Block, from the Van Diemen's Land Company.[78] AZ proposed building a mill to make 30,450 tonnes of paper a year and employ 400 men which would reduce unemployment and considerably expand the size and prosperity of Burnie. The company negotiated with the Tasmanian government for inducements and concessions. The proposal carried the excitement of large-scale development and the convincing aura of being associated with Collins House and being presented by a former premier, Sir N.E. Lewis.[79] The resulting *Wood-Pulp and Paper Industry Encouragement Act, 1924*, passed easily through a Select Committee and Parliament.[80] It provided the company with a forest concession, rights to water and effluent disposal, and special rates of land tax.

In spite of the authoritative aura, there were major uncertainties. The ability to make newsprint from eucalypts had only been demonstrated in the laboratory. AZ, aided by the Commonwealth's research scientist, L.R. Benjamin, hastened to conduct a commercial scale trial in a Dutch mill in 1925. Results were promising, but further research was needed.[81] Secondly, it was uncertain whether Australian newspapers would buy the paper. Mussen tried to induce

them to put capital into the mill, but their proprietors formed an investigating committee which advised them in effect to oppose domestic manufacturing.[82] Thirdly, it was uncertain whether the paper could compete with imports. AZ applied to the Tariff Board for protection at the rate of $11.81 per tonne, but in view of strong opposition from the newspapers only obtained $7.87 per tonne. Late in 1925, AZ decided to abandon the Burnie project in favour of one at Kermandie in which ways of producing good quality paper more cheaply would be developed.

Kermandie

Further laboratory research showed AZ that the quality problem could be solved, but that extensive feasibility studies were needed on a semi-commercial scale to see if newsprint could be made profitably at the level of tariff available; for these a semi-commercial pilot mill would have to be built. To undertake such expensive research Collins House sought the guarantee of a forest concession, with sufficient time for research.

AZ obtained a new forest concession under the *The Kermandie Wood-Pulp and Paper Industries Act, 1926*.[83] In 1927, AZ formed an investigation company, Tasmanian Paper Pty Ltd, with minority interests taken by Collins House companies, British investors and APM.[84]

A pilot mill was built at Kermandie, outside Geeveston (on the site of the Huon Timber Company's recently defunct sawmill), and equipped to make up to 4 tonnes a day of sulphite and groundwood pulp and turn it into newsprint on a 0.6 metre wide paper machine. Benjamin and other scientists, recruited from the Commonwealth, soon improved the pulping processes and adapted them to cook the old growth Swamp Gum in the concession. AZ considered that a mill of about 35,600 tonnes a year was commercially feasible and was preparing to float an operating company when the Wall Street crash caused them to lose confidence, shut the pilot mill, distribute the staff to APM and other companies, and postpone investment.[85]

During the depression

When Collins House abandoned the Burnie project, Mussen took it over, formed companies, and raised enough capital - largely from the newspaper company, John Fairfax - to buy the Surrey Hills forest and the Burnie mill site. However the depression stopped Mussen's proposal too; indeed his company, Papermakers Ltd, could not raise enough capital to justify the government proclaiming its forest concession.[86]

As none could proceed alone, Collins House, APM, various newspaper companies and Mussen's group, formed a series of shifting alliances throughout the early-1930's to investigate three different joint enterprises, but none eventuated.[87] In 1932, the newspapers started to develop the Derwent Valley project, as described later, which pre-empted the possibilities for either Collins House or Mussen's Burnie mill to enter the newsprint market. Mussen doggedly continued to promote the Burnie project until finally, in 1936 when the last possibility of a joint venture with APM had been discarded, Collins House decided to build a mill to make fine papers.

The Burnie mill

Associated Pulp and Paper Mills Ltd (APPM) was formed in 1936 to build a pulp and paper mill at Burnie with a capacity to make 15,200 tonnes of fine printing, writing and typewriting papers. The possibility of building a second mill at Kermandie later was also considered. The company was started with an ordinary capital of $1,900,000 of which the majority came from Collins House companies, although about 2% was reserved for Tasmanian residents.[88] The *Associated Pulp and Paper Mills Act 1936* was passed to provide APPM with the forest concession and rights to take water and discharge effluent.[89]

The Burnie concession

The provisions for the concession in the 1936 Act were first formulated in 1924 Act, and they still apply in the 1980's. Thus the

level and problems of forestry in the 1920's need to be recalled as the background to later operations. In 1924, the Forestry Department was struggling to establish forestry against obstruction in the Lands Department and opposition from the sawmillers. Some of Tasmania's forests had not even been explored, let alone mapped or assessed, and the Department was still trying to locate those best suited for permanent production. The Department had no idea of the timber resources and had not even roughly surveyed the forest conceded by the 1924 Act. Against this background a concession to a large-scale pulp and paper mill backed by a substantial and reputable company appeared to relieve the embattled Department of its responsibilities over a substantial area. The Conservator considered that:

> ... a pulp-wood company must practice sound forestry principles if it is to have a prolonged tenure of existence... whereas sawmilling which looks only to the rapid cutting of the mature timber and then moving elsewhere has no such economic restrictions.[90]

The main provisions of the concession were as follows:

- Unlike all earlier concessions and permits, the Burnie concession was granted without any period being specified - indeed, it exists in apparent perpetuity.
- The company was granted exclusive right to all the pulpwood, but trees big enough for sawlogs were excluded.
- The company was allowed to cut sawlogs but was not given exclusive rights.
- The government could dedicate about one-quarter of the concession as permanent reserves. For these the Conservator could make formal plans, to which the company could object.
- Unlike other timber for which royalty rates were set under regulations which could be varied from time to time, the minimum royalty for pulpwood was set at $0.03 per cubic metre without any provision for review. This rate was first set in 1924, even though at the time the Conservator did not know if it was a reasonable one or not, and thought it probably too low. The rate to be paid was made dependent on the company's profitability and was increased by 5% for every 1% extra profit made by the company over 8% up to a maximum of $0.07 per cubic metre which would apply at 38% profit.

- Unlike timber permit and lease areas, rental was not charged for the Burnie concession.

Starting up and war

The company recruited an experienced manager and skilled workers from Britain to build and start the machines and train local workers.[91] The mill was built with a capacity of 22,800 tonnes a year and started making paper in 1938.[92] Although published reports are markedly discreet, it seems that the quality of the papers initially produced could not match that of imports.[93] There were difficulties in production and considerable difficulties in breaking into the long-established and conservative paper market. APPM had to drop its prices twice in 1939 and hasten to the Tariff Board for protection. The Board appeared sympathetic but, being bound by Imperial Preference, waited until a long-delayed British case was presented, and in view of strong opposition from importers, who complained of 'irregular quality', only recommended a tariff of $3.45 a tonne which had little protective value.[94]

The Second World War changed the market and provided effective protection. Imports dropped sharply and their prices almost doubled. The mill's order book was suddenly filled and customers, glad to get deliveries at all, had to bear with uncertain quality. The paper machines, which had previously tried to match a wide range of minor variations in imported papers, were able to have long production runs making a few standard types. In 1941, imports from non-sterling countries, the major source of pre-war competition, were prohibited, and in 1942 the industry was declared an essential one, allowing the company to retrieve workers from the armed services for employment in the forests. APPM quickly became profitable. A loss in 1938-39 was converted to a profit in 1939-40 and from 1940-41 throughout the remainder of the war, APPM made profits of over $200,000 a year and paid dividends of 6% - the maximum agreed with the Prices Commissioner.[95] In 1943, the obvious success of APPM enabled it to recover the Surrey Hills forest and land at Burnie, by issuing 85,000 shares in APPM to the newspaper group in the Derwent

Valley.[96] The accounts for 1946/47 show that profits had been accumulated (in various reserves) that amounted to over half of the paid up capital of the company, after less than nine years of manufacturing.[97] Research was continued throughout the war and both the quality of paper and efficiency of the processes greatly improved.

THE DERWENT VALLEY MILL AT BOYER - ANM

The persistence of Collins House and John Fairfax in trying to make newsprint compelled the other large newspaper group, The Herald and Weekly Times Ltd of Melbourne, to consider the possibilities. L.R. Benjamin, who was deeply involved in all the early developments, has recorded that the Herald's first object was to pre-empt the possibility of Collins House establishing a newsprint mill that would require high tariffs, and that it was only *after* the Herald had secured a forest concession as a pawn for financial bargaining that they began serious investigations.[98]

In 1932, the government granted a concession to the Herald and Weekly Times Ltd in the valley of the Florentine River, which flows into the Upper Derwent. The concession contained magnificent stands of Swamp Gum with trees of giant dimensions - the tallest hardwoods in the world. The wealth of timber was reported to be 5.1 million cubic metres, equivalent to about 30 years' supply to all the sawmills of Tasmania at the time.[99] It was particularly attractive for making pulp because of the high proportion of Swamp Gum in the forest - considerably more than in the Burnie concession. The valley was inaccessible but possible road and railway routes were surveyed. The valleys of the Styx and Russell Falls (now Tyenna) Rivers, which were already accessible, were included. The Bill passed through a Joint Committee and Parliament fairly readily.[100] The only opposition came from several sawmillers logging the accessible areas, mostly to small case mills. To ensure their futures, the company was obliged to supply them with sawlogs, and the

Conservator was allowed to select 2,428 hectares out of the concession for further reserves. The Conservator advised that this would be sufficient, but apparently never considered that sawmilling might expand.

Whatever its original motives, the Herald investigated manufacturing most energetically. It recruited Benjamin and other technical experts, and in 1934 organised a commercial scale test of Tasmanian woods in a Canadian mill. This showed that it was commercially feasible to make newsprint from a mixture of pulp made from eucalypts and Canadian softwood pulp.[101]

The Fairfax company had joined the investigations soon after they had started, and for 2-3 years had an interest in both the Burnie and Derwent Valley proposals. The possibility of building a kraft pulp mill was investigated with APM, which could have used some of the pulp on its mainland paper machines, but was eventually discarded. In 1935, the Fairfax company broke with Mussen and concentrated its interest on the Derwent Valley proposal. Delays, a new partner and the results of further surveys stimulated renegotiation of the Act in 1935.[102]

Markets, capital and agreements

Although the company had secured the resource and knew how to make the paper, it still had to secure a market and raise the capital. To secure a market, the company had to supplant some imports, but this only became possible when there was a shift in the whole pattern of trade (Table 6.4).

The first shift resulted from the British policy of concentrating production within the Empire. Imports from Scandinavia were virtually eliminated by the mid-1920's by imposing a tariff of $5.91 tonne imposed to the advantage of British and Canadian manufacturers. The second shift occurred in the mid-1930's when Canadian manufacturers captured all the growth in the rapidly expanding Australian market leaving Britain with constant sales but a declining share. The third shift occurred in 1937 when Canadian manufacturers

increased their share of the market further and Britain lost sales both relatively and absolutely.

Table 6.4

Newsprint imports by origin, 1920's and 1930's[103]

Period	Country of Origin			
	U.K.	Canada	Scandin -avia & other	All
	(Proportions by weight %)			
1920/21-1924/25	49.4	20.9	29.7	100.0
1925/26-1928/29	63.8	30.4	5.8	100.0
1929/30-1932/33	59.5	37.7	2.8	100.0
1933/34-1935/36	39.8	59.6	0.6	100.0
1936/37-1938/39	20.3	79.3	0.4	100.0

The test of Tasmanian woods in a Canadian mill of the Crown Zellerbach corporation in 1934 is understandable in terms of the second shift in trade. Whereas Crown Zellerbach, as one of the world's largest exporters, might have been expected to oppose Australian manufacturing, in fact they suggested the tests to the Herald group - Australia's largest consumer.[104] Thus technical assistance went hand in hand with increased Canadian sales.

The decision to build the mill was finally made in 1937-38 when the pattern of international trade shifted for the third time, sufficient domestic capital was mobilised, and government assistance was provided. Four related agreements facilitated the decision:

1. Australian Newsprint Mills Pty Ltd

   In 1937, an attempt was made to get all the metropolitan newspapers to subscribe some capital and agree to take part of the paper on a cost+6% basis. Some, notably News Ltd and Consolidated Press, declined to join, apparently fearing domination by their larger competitors proposing the scheme.

Economically the proposal still seemed risky as the '... estimated costs of production were substantially higher than those prevailing elsewhere ...' and a public subsidy was sought.[104] Other companies did join and early in 1938, Australian Newsprint Mills Pty Ltd (ANM) was formed by eight companies of which the Herald and Weekly Times and John Fairfax were the largest.[105]

2. Canadian buying agreement

In 1937, the papers combined to negotiate a seven-year contract to buy 80% of Australia's import requirements, then about 134,000 tonnes a year from Canadian mills - with a provision that allowed the ANM mill 20% of the market.[106] Presumably the paper contract was tied to that for the 25% of imported softwood sulphite pulp needed to mix with the Tasmanian eucalypt pulp. Thus Canadian agreement to a secure place in the market for local production went hand in hand with increased Canadian sales.

3. Australian bounty

In 1938, the Australian government agreed to provide a bounty for the first four years of the new mill's operation, depending on import costs and the company's profit.[107] In the event, the Act was not proclaimed nor bounty paid as wartime import prices rose sharply before the mill even started.

4. The 1937 Act

Even with more newspapers as shareholders, ANM was short of capital and approached the Tasmanian government for assistance. An amending Act was passed in 1937 providing for the state to take $500,000 of cumulative preference shares amounting to almost a quarter of the company's capital.[108]

The Florentine concession

The provisions for the Florentine concession under the 1932 Act (and slight amendments in 1935) were as follows:

- The concession was granted for 88 years.
- The concession contained approximately 124,000 hectares.
- The company was allowed to enter sawmilling or use the sawlogs in its pulp mill. As such an enormous resource could have enabled ANM to overwhelm the sawmilling industry, it was not allowed to sell more than 20% of the timber cut, and was obliged to supply sawmillers with 30,000 cubic metres a year.
- Cutting, regeneration, and protection of the forest were to be undertaken by the company according to a plan approved by the Conservator.
- The royalty rate for pulpwood was set at a concessional rate of $0.07 per cubic metre subject to an increase of $0.01 per cubic metre for each 1% increase in profit above 10%, and subject to revision after 20 years.[109]

Starting up the Boyer mill and war

Construction of the mill at Boyer was delayed by wartime shortages so that the mill did not make paper until 1941.[110] Canadian workers were brought to start the paper machines and train local workers, and Canadian experts were employed in construction and special areas such as logging. At first, the paper had a bad colour, but this was improved over several years by further research.[111]

In 1940, imports were cut and newsprint rationed so that ANM's paper was welcomed despite its poor colour. In 1942-43 imports were stopped, leaving ANM as the sole supplier. ANM made paper as fast as it possibly could although this only amounted to about one-quarter of pre-war consumption. Even in the late 1940's, paper was short and world prices high. Although ANM's costs were also high, their paper was sold to their shareholding customers on the cost plus formula, which made it cheaper than Canadian imports.[112]

WORKERS' UNIONS, CONDITIONS AND WELFARE IN THE MONOPOLY SUB-MODE

Workers in the pulp and paper mills fared markedly better than those in the sawmills and forests. Most obviously, the pulp and paper mills required some highly skilled workers who obtained large margins over the basic wage; they operated continuously and provided stable, secure, long-term employment, and were profitable enough to afford above-average wages and conditions.[113]

The workers were readily organised by comparatively strong unions who settled most disputes by negotiation with company managements. In both mills, the pulp and paper workers were represented by the Printing Industry Employees' Union of Australia (PIEUA), later to become the Printing and Kindred Industries Union (PKIU), and the Australian Workers' Union (AWU). The workers and tradesmen not directly making pulp and paper were represented by unions for their own callings and trades and these joined with the paper unions in overall federal industrial agreements. Timber workers employed by the companies remained under State awards.[114]

Both APPM and ANM pursued 'advanced' industrial relations policies that sought to defuse militant unionism and create a stable and contented workforce by providing comprehensive welfare benefits through structures in which the workers participated. Early forms of these policies had been tried by mining companies on Tasmania's west coast from the turn of the century, but they were not fully developed until the Russian revolution alarmed the ruling classes and the flood of servicemen returned from the First World War armed with expectations of better things. In 1919, Mussen as advisor and spokesman for Collins House saw that: '... the secret of increased production as far as employees are concerned lies in our bringing about a change in their point of view ...'[115] He urged that '*mere money-grubbing*' should give way to a *'Gospel of Happiness'* whose components consisted of decent health care, education, housing and wages in excess of subsistence. The policy was developed at Port Pirie, and applied in Tasmania at EZ and APPM. ANM followed a similar policy with schemes for:

- medical and hospital benefits,
- loans in periods of sickness and distress,
- company housing that workers could buy,
- community facilities on company housing estates,
- sporting facilities and clubs,
- superannuation funds, and
- continued employment for injured, or disabled workers.[116]

Although administered by the companies, these schemes allowed for joint control by workers' and company representatives. They were applied with a caring, if initially paternalistic, attitude by the management which, within the small compass of Tasmania, served to maintain good political and community relationships. The companies also fostered the support of the workers by encouraging technical training and advancement, and through company magazines which carried company views and information amidst personnel and sporting stories.

Neither better wages nor advanced and humanely administered welfare schemes were achieved without effort by the unions; where unions were weakest, wages and conditions were worst; where there were no unions, the welfare schemes did not apply; conditions for workers in the forest were very different from those in the mills. Mussen's 'Gospel of Happiness' was preached in a manner more demure than evangelical.

Union organisation of the workers cutting pulpwood for APPM was difficult as they were widely dispersed, paid piece-wages, and worked in small groups for small-scale logging sub-contractors. Typically, the sub-contractors worked in the forest themselves, provided tractors or horses for snigging, and often owned or further sub-contracted the road trucks. They held their sub-contracts from a firm, Forest Supplies Pty Ltd, set up as principal contractors to the mill. The company was thus insulated from the workers by two tiers of contractors. The ATWU-T appointed a temporary organiser and slowly signed up the cutters.[117] In 1940, the union and small sub-contractors approached APPM for higher rates but the company refused to recognise either the union or the combined deputation, and Forest Supplies sought to circumvent the union by negotiating with the sub-

contractors only. However the Trades and Labour Council in Burnie supported the ATWU-T and after a brief hold-up, Forest Supplies, acting for APPM agreed to pay higher cutting rates.[118] By 1941 the union had succeeded in having a Tasmanian Wages Board set up to cover pulpwood cutting and the federal award margin for cutting firewood was taken to apply to pulpwood.[119] In spite of this, sub-contractors frequently paid less than the award by manipulating the piece-wages system and by petty chiseling.[120]

The workers cutting for ANM were concentrated on fewer sites and were readily organised. The major logging operation was conducted directly by the company which meant that most workers were paid time-wages. However the fallers were generally paid on piece-wages. At first, the company paid less than the award rates and refused to recognise the union.[121] However the union persisted and represented timber workers in various disputes over breaches of the award. Generally disputes were settled by local negotiation, occasionally supported by other unions at the mill.[122] Maydena was built as a company village for the timber workers and supplied with shops, a hall, water, electricity, and sewerage facilities. With a concentrated workforce on highly mechanised and productive operations, better conditions for timber workers were obtained there than elsewhere in Tasmania.

THE CONSTRUCTION OF FORESTRY BY THE STATE

We have seen how the two new structures were added and can now consider the relationships between the wood industries and the state, and particularly how the state constructed forestry. In the previous chapter, we saw that forestry's reproductive function of renewing the resource was pressed from the centre of Empire through Imperial and Australian conferences. During the 1910's, Tasmania had done little more than send delegates to Australian conferences, but in 1920 it was her turn to act as host to the other States, and something had at least to be seen to be done.

The debut of forestry

The 1920 conference approved calculations by Commonwealth officials that Australia should permanently reserve and manage 9.9 million hectares of indigenous forest to ensure a permanent supply of timber; Tasmania's share was considered to be 0.6 million.[123] Tasmania responded by passing the *Forestry Act, 1920*, '... to establish a Forestry Department and to provide for the better management and protection of forests ...'[124]

The Act dutifully specified that 0.6 million hectares of forested Crown Land were to be 'dedicated' as permanent 'State Forests' within 7 years. Once selected and proclaimed, such forests could only be revoked by agreement of both houses of parliament. Dedication proceeded slowly due to the conflicts over the use of Crown Land between the pastoral, agricultural, mining and forestry fractions of capital, expounded and expanded by the relevant Departments. By 1927, only 132,711 hectares had been proclaimed, but in 1928, probably spurred by the visit of the Empire Forestry Conference to Australia and by the incipient pulp industry, a further 374,186 hectares were proclaimed. The target of 0.6 million hectares was not reached until 1939.[125]

In 1922, commercial plantations were started but, as funds were very limited, only 352 hectares were planted by 1930.[126] The Commonwealth advocated more and undertook to provide $6,000 a year for a small programme, but as the depression deepened the undertaking was cancelled.[127] Some funds were provided for unemployment relief and used to employ men mostly on plantation establishment and later to set up two training camps for Tasmanian youths. The timber resources created by these funds were trivial, as only 45 hectares were planted between 1935 and 1939.[128]

The system by which sawmillers were provided with security of tenure by leases was modified in 1922 to a system of Exclusive Forest Permits (EFP) which gave exclusive rights to a surveyed area of forest for a period of up to 15 years.[129]

The Act created a Foresty Department (in place of the Forestry Branch within the Lands Department) headed by a Conservator of Forests and responsible to a Minister for Forestry. There was no immediate increase in staff and the new Conservator had to report humbly to the Commissioner of Police that:

> ... at the present time [1920] I have no field staff and am dependent upon the assistance of your officers acting in their capacity as Crown Lands Bailiffs ...[130]

Under the *Forestry Act*, one-half of the timber revenues were paid into a 'Forestry Fund' and devoted to the new Department. As this fund gradually built up, a few staff were appointed.

The struggle over forestry

Forestry's integrative practices to secure the orderly working of the forests by many users meant controlling individual sawmillers' logging, and its reproductive function of protecting and regenerating the forests had the potential to add to their costs. Thus, the new policies were by no means in the immediate interests of *individual* small-scale sawmillers. In 1921, the Conservator, noting the perpetual conflicts in other States, made '... every effort to further a sympathetic attitude towards the timber industry ...' He hoped that cooperation would enable '... forestry to forge ahead [but] fully realised that there are serious difficulties and that conflict of interests will at times be quite unavoidable ...'[131] His expectation was quickly realised.

The strong demand for timber immediately after the First World War enabled the state to increase the royalty rates, but still only to levels that were low in comparison with other States.[132]

Table 6.5

Royalty rates on eucalypt logs, 1918-1936[133]

Rate from	Rate ($ per m^3)	Date from	Rate ($ per m^3)
1918	0.03	1 Mar 1929	0.21
1 Jan 1921	0.21	1 Sept 1929	0.18
1 July 1923	0.18	1 Aug 1931	0.11
1 June 1928	0.14	1 Jan 1932	0.18
1 Dec 1928	0.18	1 Sept 1936	0.19

The severe depression in sawmilling in 1922 led to reductions in rates (Table 6.5) which, when combined with reduced production, cut revenues (Table 6.6) and kept the Forestry Department poor (Table 6.7). From 1926, the Department asked for a greater proportion of the revenues.[134] Revenues continued to fall, and by 1930 the government was forced to raise the proportion allocated to the Forestry Fund to two-thirds merely to keep the Department open.[135] Being starved of funds, the new Department could make only very slow progress in surveying and assessing the resource, and could do virtually nothing to ensure its reproduction.

Table 6.6

State revenue from timber, 1920-1939 [136]

Annual averages ($)

Period	Timber licences		Leases and permits		Other
	Fees	Royalty	Rent	Royalty	
1919/20-23/24	583	4,553	2,768	9,129	179
1924/25-28/29	175	3,722	2,415	11,675	67
1929/30-33/34	144	2,453	2,317	8,386	-
1934/35-38/39	209	4,581	2,790	20,786	-

Table 6.7

Average annual expenditure by the Forestry Department, 1920-1939 [137] ($)

Period	Forestry Fund	State Loan Fund	State and Commonwealth Unemployment Relief	Other	Total
1919/20-23/24	11,072				11,072
1924/25-28/29	22,192			586	22,778
1929/30-33/34	15,714		6,078	794	22,586
1934/35-38/39	35,854	31,560	21,942	8,000	97,356

Tasmanian efforts to establish forestry in the 1920's were clearly not sufficient. The Commonwealth forcibly enunciated what was needed:

> The fundamental and far reaching alteration to Tasmania's forest policy recommended ... is the acceptance of the principle of continuous production which foresters term *sustained yield* in place of the present system of exhaustive exploitation. ... it is now necessary to provide ... a properly constituted department staffed with technical officers of repute.[138]

The needs for resource surveys, planning, a sawmillers organisation, and an increase in the productivity in sawmills were also discussed. These recommendations were introduced by H.E. Gepp, Chairman of the Development and Migration Commission and immediate past Managing Director of the Electrolytic Zinc Company - part of the Collins House group which was then planning to make pulp and paper in Tasmania. Thus the report carried not only views from the Australian state, but the implicit imprimatur of central capital.

The State government responded by increasing the staff of the Forestry Department slightly and appointing a new Conservator in 1930, who considered that:

> ... it was becoming evident that unless something could be done to control the cut and definite efforts made to obtain something like a sustained yield, the sawmilling industry could hardly be expected to survive another twenty years.[139]

He prepared *A Forest Policy for Tasmania*, which elaborated the Commonwealth's recommendations, and involved regeneration works in the forest and control by the Forestry Department of the quantity cut from the forests - both to the short-term expense of the millers. The State government accepted this in principle, though implementation was slow and partial due to the financial stringencies of the depression and the opposition of the sawmillers.[140] Looking back in 1937, the Conservator considered that:

> ... the regime of *laissez-faire* had become so firmly established that any mention of control or restriction was regarded as heresy of the most dangerous order ... and one might almost say that it was only as such opposition was overcome that the policy could be formally recognised by the Government.[141]

In the mid-1930's, unemployment relief funds increased and the state provided loans for plantations (Table 6.7). The sawmillers opposed this by claiming, with little obvious logic, that unemployment relief funds might lead to their having to pay increased royalties to meet heavy expenditures. In 1935 a large deputation called on the Minister wanting more information and the right to criticise the Department. They were clearly influential for the Minister undertook to submit any further regulations to the TTO before they were gazetted.[142]

The system of collecting royalties had relied, since 1898, on sawmillers declaring the quantity of logs on which payments were due to the state. When staff were increased in the 1920's, checking increased, many frauds were found, and the new Conservator instituted a series of prosecutions against sawmillers.[143] However the courts provided little support for the Forestry Department.[144] An increase in funds in the mid-1930's enabled the Department to strengthen its administration slightly. In the North-Western Division, a vigilant inspector was appointed who introduced a system of intensive checking and doubled the royalty collections. All discrepencies in sawmillers' returns were followed up for '... there never had been a month when all log sheets have been correct.'[145] The Conservator was quick to point to the considerable loss in revenue as '... an example of the cost of some of the uneconomic 'economies' forced on the Department by lack of funds...'[146] Clearly many sawmillers had reason to oppose the build up of the Forestry Department, in addition to the rate at which the royalty was set and the cost of forestry in general.

Changing relationships

The addition of the kiln drying structure in 1936-37 and the move of mainland merchants into sawmilling was correlated with significant changes in the relationships between the state administration and the existing structures of production. Whereas sawmillers had vigorously opposed measures to control the rate of cutting, so that permits had been allocated in response to virtually

every application, in 1936 the TTO asked the Forestry Department to refuse permits to any new sawmills. They drew attention to the scarcity of resources, a matter of no apparent concern to them previously.[147] The Conservator was able to add quantity conditions as each permit was granted or renewed, and where multiple permits were held, the quantities were combined into an overall allocation for each mill. In 1937, he was able to gazette regulations to control the total volume being cut to the then current level.

Tasmanian sawmillers feared that the war-time regulations might strengthen the domination of the mainland merchants.[148] In 1941, '... the granting of a large Crown Forest area to a mainland company [Alstergrens] for plywood manufacture was questioned by many millers ...'.[149] The TTO sought to have the issue of any further forest permits restricted to *bona fide* Tasmanians.[150] The conflict degenerated from an argued case to a welter of increasingly public accusations, rumours, smears, and gossip about corruption in the forest administration that led to a major political scandal and the eventual re-structuring of the Forestry Department.

Corruption

The scandal centred on accusations that the Minister for Forestry, T. D'Alton, had accepted bribes from the mainland timber merchants, E.A. Alstergren and W.G. Nosworthy, in return for which he had granted exceptionally favourable conditions on the permits for the plymill and the Loongana sawmill. Further accusations that local sawmillers too had obtained favours by bribing Forestry Department officials added to the furore.

Problems of irregular administration by Forestry Department officials appear to have been raised first by the ATWU-T in 1940.[151] The Minister sought an independent investigation by the head of Victoria's forest service, who made suggestions for administrative reforms which were implemented.[152]

The permit for the plymill was issued in 1941 but it was not until 1943, when the output of sawn timber associated with the

plymill was rising, that the major scandal started to unfold. When investigations by the Auditor-General into Forestry Department officers were mysteriously obstructed by the Minister, the Legislative Council appointed a Select Committee to inquire.[153] D'Alton promptly resigned and was sent to New Zealand. The Select Committeee inquiry dragged on inconclusively and was followed by a police inquiry and eventually, in 1945, by a Royal Commission.[154] Even though Alstergrens sent their company records to the mainland and D'Alton stayed in New Zealand, the Royal Commission did find that the former had bribed the latter. It also found that four Forestry Department officials had received minor bribes. Subsequent court cases were unable to prove the charges; D'Alton returned, was re-elected, and served as government leader in the Legislative Council for another 20 years, though he was never again appointed to the Ministry.[155]

The Forestry Commission

The government looked to the Commonwealth for advice and received a report which recommended strengthening and professionalising the forest service, and giving it greater freedom from Ministerial direction. It recommended that regeneration and protection policies be implemented, and a greatly increased plantation scheme be started after the war.[156]

The government, keen to restore public confidence after the D'Alton scandal, proposed to change the status of the forestry administration from a department to a stronger, more autonomous body.[157] The sawmillers again opposed planting pines, but agreed:

> ...that a Forestry Commission be set up in Tasmania, vested with full authority to administer the forest estate, and free from political control other than responsibility to Parliament as a whole ...[158]

The *Forestry Act* was duly amended in 1946 to provide for control by a Chief Commissioner, who was to be a trained forester, assisted by two Assistant Commisioners, one technical and one with '... practical business experience and executive ability ...'[159] The new Forestry Commission and the TTA were quick to reassure each other

that their relations were harmonious, that old antagonisms had ended and that close cooperation was the order of the post-war era.[160]

DEVELOPMENT

We have now established the significant changes that occurred in the Tasmanian wood industries during the turbulent period from 1920 to 1945. Even though progress was reversed by the cruel depressions of the 1920's and 1930's, yet the overall changes were certainly developments in the popular sense of industrialisation and a transition to a more modern society: a heavy industry was started; improved techniques of treating timber were applied; and new organisations of labour, capital and above all the state were established.

The major determinants of change - two World Wars, the Great Depression, Britain's declining hegemony, and Australian policies for industrialisation - originated outside Tasmania. The importance of international factors was seen again with newsprint, for Tasmanian manufacturing appeared to be possible only as a minor 'spin-off' from shifts in world trade.

The monopoly sub-mode of production - a salient feature of the world-system since the beginning of the century - was a late arrival in the Tasmanian wood industries, but one of great consequence. It was certainly more progressive than the competitive and small business structures of sawmilling, in so far as most of its workers did considerably better than in sawmilling, and it required the resource to be renewed whereas the small-scale competitive sawmills did not.

In contrast to the substantial development of making pulp and paper, Tasmanian sawmilling remained predominantly small-scale, local, stagnant and depressed for most of the 1920's and 1930's. The limited structural change that did occur - the move of merchant capital into Tasmanian kiln-drying, plymilling and sawmilling - was largely determined by intra-class competition. Although further

industrialisation was a structural addition at the Tasmanian level, at the Australian one it was merely an industrial relocation that preserved the general subordination of Tasmanian forest mills to the mainland merchants.

Although the fortunes of labour waxed and waned and waxed again more strongly, the essential nature of inter-class relations in sawmilling changed little. The limited introduction of 'cooperative group working' did not constitute a change in the relations of production, but merely a change in the form of payment. Relations were altered for some workers in small mills during the depression when the means of production were leased to them; however this seems likely to have been an arrangement introduced within the competitive sub-mode to decrease effective wage rates, rather than an independent structure of production.

The needs of the different structures of production were expressed by changes in state legislation and administration. The long-term need of industrial capital in general required state policies to maintain or increase the forest resource. This need was pressed ever-more strongly after the First World War from the centre of Empire; its implementation was planned by the Commonwealth; and its execution passed to the States. The Australian state also conducted industrial research to promote its development strategy of capitalist industrialisation. The theory that the state acts to provide for capital's logical needs explains such actions at the imperial and Australian levels of the state quite adequately. It does not fully explain the actions of the Tasmanian state.

The Tasmanian state obediently followed the plans prepared at higher levels and legislated for the long-term reproduction of the resource - quite as would be expected by the capital logic theory. However, the state's actions in implementing this policy were set in more complex ways that require intra-class competition to be accounted for. Firstly, the small competitive capitalists opposed the introduction of forestry practices that would have contained their freedom and increased their costs. As a result the state's

administration was starved of funds, unable to map or plan the forest let alone protect and regenerate it, and was far too weak to handle large projects such as providing access to the Florentine Valley. Secondly, the large-scale heavy industry, operating in the monopoly sub-mode, sought not only concessions, inducements and even finance for its production - which the state readily supplied - but also the reproduction of the forests. The beleaguered Forestry Department was forced to leave the provision of infrastructure, the regeneration of the forests, and even planning, to the companies. This weakness was not seen to be in the long-term interests of capital in general, and particularly not of the large-scale immobile capital represented in the pulp and paper industry. The need for the state to take on the reproductive function and provide a stronger, and above-all honest administration were repeatedly pressed through the Commonwealth. By 1946, such needs prevailed over those of a parochial and depressed small-scale sawmilling industry.

At the end of the period considered here, it is clear that both new structures - kiln-drying, and pulp and paper making - had been successfully established. Kiln-drying was articulated with sawmilling, but pulp and paper making operated independently. Both structures were able to take every advantage of the boom that was to follow in the 1950's and 1960's but, as we will see in the following two chapters, their expansion brought them into increasing contact with the existing structures of sawmilling and led to new relationships with the state.

Chapter 7

EXPANSION OF THE WOOD INDUSTRIES , 1945 - 1969

The Second World War marked the start of a quarter of a century of global changes, a new stage of capitalism, and an economic boom within its core of rich industrialised countries. In this chapter, we will first establish the salient features of the new stage and the course of the economic boom in Australia. Then, we will consider the expansion of both sawmilling and pulp and paper making in Tasmania, the changing relationships between the different structures and capitals, and the actions of the state.

'Late Capitalism' and a 'New Imperialism'

The quarter of a century to 1970 was one of spectacular change: a billion more people were added to the world's population; prodigious scientific discoveries were brandished at Hiroshima and flaunted from the moon; industrialisation spread. The United States emerged from the Second World War as the undoubted hegemonic power of capitalism, and the old empires collapsed as a host of colonies declared themselves to be nations. Meanwhile, socialism spread to Eastern Europe and China, covering one-third of the world's people. The United Nations Organisation proclaimed its 'Decade of Development' and modernization theory flourished as attempts were made to understand, ameliorate and counter underdevelopment - reforesting, for one example, increased. Yet the paradoxes between human potential and condition became bleaker: wretched and rich drew further apart, the bountiful biosphere was increasingly impaired, and finite resources depleted prodigally.

The capitalist world-system is held to have entered a new stage described by such terms as 'Late' or 'Advanced Monopoly Capitalism', and 'New Imperialism'.[1]

In the core , capital was directed both to expanding factories and increasing their productivity with more powerful and automated

machines. Production and planning became far more complex but were rationalised with ubiquitous computers. Consumption too rose rapidly as clever marketeers cajoled increased wages into a host of products that enabled market relationships to penetrate ever further into the household economies of the 'Consumer Society'. Even as this process was continuing, capital was being directed out of the core to industrialise states where labour was cheaper, workers more disciplined, local elites accommodating and governments less discriminating.

Free of overt political control by the old imperial powers, enfranchised in the United Nations, the former colonies and other Third World countries found they were still held firmly in a 'New Imperialism' of complex economic controls (unequal exchange, the monetary system, technological rents and so forth), backed at times by more forceful measures.[2] Their experience varied; a few were favoured destinations for western investment and industrialised rapidly, but the lot of many deteriorated. This new imperialism was dominated by the United States which, by 1971, had 52% of the capitalist world's foreign investment.[3]

Changes in the core became increasingly linked to changes in the periphery by the advent of the global sub-mode of production (introduced in Chapter 1) with its typical organisational form - the giant transnational conglomerate corporation. This form represented a further stage in the progressive concentration of capital, beyond the monopoly of a single industry. Its advantage to capital sprang from its ability to transfer capital internally between both sectors and nations. As we have seen before, the advent of a salient structure, taken to characterise a new stage of the world-system, did not immediately overwhelm the Tasmanian wood industries. In this chapter, we will see that foreign capital only penetrated sawmilling and pulp and paper-making to a very limited extent. But in the next chapter, we will see that during the 1970's over half Tasmania's wood came to be used in the global sub-mode of production.

AUSTRALIA

Australian development through the 1950's and 1960's contained features of both developed and developing states: it had high production, wage and consumption levels, and yet it was the destination of investment from the core, particularly from the US.

After the Second World War, Australia sought to absorb returning fighting men and reconstruct the economy by declaring a policy of full employment to be achieved by both public and private investment.[4] The economy did expand quite rapidly (by 4-5% per annum in the 1950's and 1960's) but with low inflation for twenty years (1953-73).[5] Wool prices reached record heights, primary production rose, and newly-found mineral deposits were exploited. The greatest change was in manufacturing which virtually doubled its share of the economy.[6] Not only did heavy and complex industries overtake the traditional lighter industries, but for the first time manufacturing as a whole surpassed rural and mining production combined; Australia became an industrial nation.[7]

The expanding economy needed all the labour it could get. Some 2.5 million refugees and immigrants, half from new non-British sources, arrived in the 1950's and 1960's, and more women joined the industrial and commercial workforce, yet unemployment was continuously lower than any period since about the beginning of the century.[8] Immigration combined with a high post-war birthrate meant that Australia's population, which rose from 7.6 million in 1947 to 12.8 million by 1971, increased 2-5 times faster than in other industrialised western countries.[9] The demand for housing and hence timber was intense, especially in Sydney and Melbourne. In 24 years (1947-71), 1.8 million homes were built, which doubled the number.

The unions made significant gains to both the real value of wages and conditions - the 40 hour week was declared a standard in 1947, 3-4 weeks annual leave was obtained, and long-service leave was introduced for unionists.[10] But labour's power was also limited by decisions of the Arbitration Court, limited union membership, and as

the workforce became increasingly fragmented. On the one hand, skilled tradesmen in short supply, and workers in some heavy and profitable industries such as pulp and paper, were able to negotiate better wages and conditions than those awarded by the courts. On the other hand, the mass of unskilled and semi-skilled immigrants from non-English speaking countries found only low-paid and insecure work on assembly lines, in packing sheds, in mines, or in the forests cutting pulpwood. Sex, race and age further divided the working class.[11]

Personal consumption almost doubled between 1938-39 and 1968-69.[12] Much of it in the spreading suburbs was directed to housing, to cars to traverse them, and to televisions and electrical goods - promoted with gusto and financed in part by hire-purchase and other forms of consumer credit.[13] The average consumption of paper per person doubled, pushed up by packaging and advertising for mass supermarket shopping, the replacement of more durable materials by disposable paper, and increased education, bureaucracy and personal reading.[14]

The new factories were built or bought largely by foreign capital. International comparisons, published in 1978, showed that foreign control of Australian industry, which varied from 29% to 62% according to sector, was only exceeded among developed countries by Canada (36-90%) and was generally similar to developing countries like Argentina, Brazil and Mexico.[15]

The orientation of Australian capitalism was turned decisively from Britain towards the United States by the military alliance of the Second World War, by international agreements, and above all by the influx of U.S. capital and corporations.[16] Britain continued to invest but Australia was no longer its almost exclusive preserve. Studies made in the 1970's showed that Britain controlled 20% of the largest manufacturers, the USA 16%, other foreign countries 6%, leaving 58% of the large companies and presumably a much higher proportion of the smaller companies in Australian hands.[17] The USA surpassed Britain in controlling a larger proportion of the expanding mining (29% vs.12%) and finance (17% vs.12%) sectors.[18]

Australian companies held a strong position in most sectors of the paper market thus making it difficult for foreign capital to enter. In the printing and writing paper segment, two foreign entrants were associated with or taken over by APPM, as described later. In the heavy paper and paperboard segment, APM's monopoly of production was not upset by foreign capital. Tissue paper was not made in Australian mills and the rapidly expanding market for disposable products was captured by Australian offshoots of two transnational corporations - one as a joint venture with APM.[19] By 1975-76, foreign investment in the paper, paper products and printing sector was estimated (from the largest 20 companies) at 11%.[20] The diffused, small-scale, sawmilling industry was generally unattractive to new foreign capital and remained predominantly Australian, though two major companies operating in Tasmania were taken over by foreign corporations.[21]

Australian capital was mobilised for industrialisation in ways which concentrated control into institutional hands. Insurance companies and superannuation funds, controlling the accumulated premiums of countless Australians, altered their rules to become major industrial investors from the 1950's on. Banks too shifted capital, the savings of many depositors, from pastoral to manufacturing industry. Capital was also raised on the share market from many, mostly affluent, individuals so that the number of shareholders in major public companies increased many times, though control remained highly concentrated - APM for example had 36,000 individual shareholders by 1975, but only 20 of them controlled 29% of the capital.[22] A detailed study of large Australian companies in 1974/75 found that 35% of their capital came from financial institutions and other companies. Only about one-third of them were still controlled by individual capitalists, while the rest were controlled either by other (mostly overseas) companies or their own managements.[23]

The Commonwealth retained some of its war-time powers and was clearly in charge of whatever manipulations could be made to the Australian economy within the world framework. New activities such

as the Commonwealth Bank, domestic and overseas airlines, and a coastal shipping line were undertaken, and a professional and competent career public service built up. Industrialisation and expansion needed more capital for electricity, water, roads and ports, houses, schools and hospitals. Initially, public investment concentrated on the infrastructure required for industry, and the States had to struggle to provide suburban and social services from funds remitted by the Commonwealth and such taxes as they could raise themselves.[24]

TASMANIA

The boom was reflected in Tasmania to a lesser extent than in the other States. Even though the population grew at a slower rate (as few overseas migrants settled there and the net outmigration to the mainland continued), some 50,000 new dwellings were built which created a strong demand for timber after the war.[25] The goal of 'development' was still pursued with the policy of hydro-industrialisation which, with the availability of natural resources, led to substantial expansion in mining, metals-processing, and the wood industries. Electricity was sold at less than half the price of other States, which attracted capital into such energy-intensive concerns as the refining of zinc, manganese and most notably aluminium.[26] Mining too increased.[27] Although the dramatic expansion of manufacturing was concentrated around Sydney and Melbourne, a steady expansion did occur in Tasmania so that manufacturing employment increased from 19,000 at the war's end to over 31,000 by the end of the 1960's. Similarly, production of most pastoral and agricultural crops increased steadily. The production of apples fluctuated and in the 1960's manual packing in wooden cases gave way to automatic packing in cardboard boxes so that the demand for case timber fell and that for cardboard rose.

The wood industries, the third major sector of Tasmania's post-war economic growth, increased production through both the building

of more mills and technological improvements. Sawmilling expanded very rapidly in the immediate post-war years when the demand for building materials was greatest. Pulp and paper production increased by intermittent large steps as new machines and mills were built. Together they accounted for 18% of both employment in and the value of the output from all Tasmania's mills and factories.[28]

In the forests, not only did the quantity of wood cut triple, which necessitated more roads and regeneration works, but the operations of the two industries came into increasing contact which led to greater state planning and control.[29] Competition and conflict extended well beyond the forest's edge and led to various takeovers, amalgamations and changes in the structure of ownership and control. We will consider the industries in turn.

SAWMILLING

The post-war boom in building created the need for great quantities of sawn timber. Imports increased, but only to about one-fifth of consumption. Australian production increased by 62% in the post-war decade but then stayed at a fairly steady level. In Tasmania, production increased very fast in the post-war decade and continued to increase through the 1960's.

Table 7.1

Sawn timber production and exports, 1945-1969 [30]

Period	Average annual volumes		Ratio of volumes	
	Produced	exported	exported/ produced	dressed/ total
	(m^3 000)	(m^3 000)	(%)	(%)
1944/45-1948/49	238.9	72.2	30.2	15.9
1949/50-1958/59	309.1	189.5	45.1	7.7
1959/60-1968/69	400.1	170.3	42.6	24.5

Immediately after the war, controls and a shortage of ships restricted Tasmanian exports, but in 1948, the Commonwealth abandoned price control and supplied ships to get the timber to the industrial centres.[31] Exports to the mainland rose rapidly, though overseas trade remained trivial.

The forests were cut heavily to supply the boom in production, and in many areas at a faster rate than could be sustained in the long-term. The competitive fractions of capital sought to profit as fast as they could, and the Forestry Commission was either unwilling or politically powerless to restrict production by regulating the quantity cut to a sustainable level. We will see (Chapter 8) that severe reductions, induced by this failure, became inevitable in the 1970's.[32]

The increase in production was obtained by building more mills, employing more workers, harnessing more power and increasing productivity (Table 7.2). The expansion was effected differently in the various structures of production (Table 7.3). As virtually no sawmills were built during the war, data for 1938/39 provide an estimate of the position at the war's end.

Table 7.2

Sawmill statistics : Decennial averages, 1940's-1960's [33]

		Period		
		1940's	1950's	1960's
Number of mills		243	346	301
Number of workers		1,767	2,372	2,805
	per mill	7.3	6.9	9.0
Power	per worker(kW)	4.6	9.0	11.4
	per mill (kW)	33.4	61.5	103.5
Volume cut	per worker (m^3)	125	130	143
	per mill (m^3)	912	893	1,329

Table 7.3

Classification of sawmills by numbers employed, selected years [34]

Number of employees	1938-39	1948-49	1950-51	1967-68
4 and under	77	174	205	116
5 - 10	103	91	96	92
11 - 20	32	25	34	38
21 - 50	12	14	18	19
51 - 100	2	4	2	6
Over 100		1		3
Total 5 and over	132	161	150	158
Total all	209	335	355	274

Small business mode

The 150 sawmills built after the war were almost all very small ones that operated in the small business mode. They had little more than a petrol or diesel motor, a single saw, and a simple carriage for small logs, and were operated by the owner and 1-3 workers. They were set up in the forest and moved frequently from spot to spot cutting rough-sawn green timber for the building boom and to supply case shooks. Their numbers declined when the boom was over and as the apple industry changed from wooden to cardboard boxes.

General forest sawmills

The number of medium sized mills (employing 5-20 workers) stayed fairly constant. These mills mostly cut rough-sawn green timber and were operated in both the small business and competitive structures. Hart analysed the comparative costs in 1969-70 of producing green sawn timber in a sample of 20 sawmills spread across the range of mill sizes, (excluding the very small case mills) but could not find a relationship of any significance between size and cost, although there *were* considerable differences between costs in individual mills.[35] Hart found that the sales area was closely related to size; the smallest mills selling their production within

Tasmania, and the largest mills selling two-thirds of their timber interstate.[36]

Large sawmills

The number of large mills (employing 21 or more workers) increased appreciably. Both the Tasmanian and mainland merchants operated large mills. Although they did not enjoy any particular advantage in green sawing, they were able to instal kilns and dressing equipment and to introduce new techniques like accurate band-sawing or pre-drying, which few of the middle sized mills were able to afford.[37] During the 1940's, many more kilns were built and planing and moulding machines installed. By 1950, sixteen mills were able to produce kiln dried timber and flooring. By the 1960's, one-quarter of the exports were of high quality dried and dressed timber (Table 7.1).

Some of the largest mills continued to obtain part of their requirements of rough-sawn timber for seasoning and dressing from medium and small mills. There was a general tendency to vertical integration in order to secure supply from the smaller mills, most of which were kept in operation. Hart examined the reasons for closing 38 mills (other than case mills) and found that 16 (42%) of the closures were due to take-overs and group rationalisation and the remainder mostly to difficulties in obtaining sawlogs.[38] These structural changes led to a drop in the number of working proprietors and a rise in the number of managers and clerical staff, indicating some improvement in the level of administration.[39]

CONCENTRATION OF SAWMILLING : FOUR CASES

We will now examine in more detail the increase in production in large mills, the expansion of kiln-drying, and the vertical integration of production by considering four longitudinal cases - one for each of the four main fractions of capital involved:

- Tasmanian merchant/sawmillers,
- mainland merchant/sawmillers,
- foreign transnational corporations, and the
- mainland pulp and paper company, APPM.

1. Tasmanian merchant/sawmillers - Risby Brothers[40]

Risby Bros is a long-established firm of sawmillers and timber merchants in Hobart, which even in 1982 is still owned and managed by the Risby family. At the end of the Second World War they had a mill with kilns, dressing and moulding machines, and a timber yard in Hobart. They also had forest sawmills at Brown Mountain and Ellendale which were supplied with 3,000 cubic metres of logs a year by ANM (described in Chapter 6), and held other permit areas.

Steady profits in the 1940's and keen markets in the 1950's enabled Risby's to expand. In Hobart they added two more drying kilns in 1952 and introduced fork-lift trucks - an innovation at the time. The forest sawmills were replaced with a new mill at Westerway capable of cutting 4,500-6,000 cubic metres a year. Part of the Hobart mill had to be rebuilt in 1954, which delayed further expansion, but in 1958 the Westerway mill burnt down which forced Risby's to construct a large new one at Austins Ferry on the northern outskirts of Hobart. Instead of the circular saws normally used for breaking down logs, a large modern band saw was installed.[41] The more sophisticated technology of band-sawing was mastered (after initial difficulties - as they did not read the maintenance manuals!) and a more accurate sizing log carriage added in 1963. In 1962, Risby's purchased a sawmill at Sorell, and transferred its log allocation to the Austins Ferry mill which, by 1963, was built up to approximately 15,000 cubic metres a year.

Risby Bros, as an example of an old-established Tasmanian firm of merchant/sawmillers, managed to double their production by:

- securing an allocation of logs from the ANM concession;
- obtaining their own forest permits;
- taking over a smaller firm;

- specialising in high quality timber, which was relatively easy to market out of Tasmania (they could sell their general timber in Tasmania through their own organisation);
- being able to adopt more sophisticated technology;
- being able to finance their own expansion from accumulated capital (and presumably loans) and retain ownership; and
- having sufficient managerial and technical expertise within the Risby family to continue the firm.

The example of Risby's is not unique for other firms, such as Kemp and Denning, or Crisp and Gunn, expanded in a similar manner, managing to retain Tasmanian ownership and control while gradually increasing and improving production. A similar firm, Chesterman's, closed when there were no new family members who wished to carry on the business.

2. Mainland merchants/sawmillers - Kilndried Hardwoods and Tasmanian Plywoods.

After the Second World War, the net of mainland timber merchants (Gunnersen, Nosworthy, Le Messurier and Alstergren), which already had three sawmills, two kiln-drying plants, and a plymill in Tasmania (described in Chapter 6), expanded their activities.

In 1947, they converted Kilndried Hardwoods into a public company and had no difficulty in raising an additional $70,000, (partly from the Tasmanian sawmiller K.D. Atkins and the finance house, Australian United Corporation). They then purchased further sawmills at Campbell Town and Oatlands.[42] In 1953, the company was restructured as Kilndried Timber Industries Ltd and the capital increased to $560,000, which enabled it to build a new sawmill at Hamilton and buy Southern Hardwoods Pty Ltd with a large timber area and sawmill at Geeveston.[43] The company continued to expand in the 1960's by taking over further Tasmanian sawmillers - Fenton Timber Products, Dee River Sawmillers, Pyengana Sawmills and I.C. Fehlberg Timbers. Some of these takeovers appear to have been achieved by issues of shares to the original owners, though Holyman's and the network of Gunnersen, Alstergren and Le Messurier (in Alstergren Pty Ltd) remained the major shareholders.[44]

The plywood factory was rebuilt following a fire in 1955, and its capacity increased from 4,400 to 6,600 cubic metres. A slicing machine was added enabling decorative panels to be made from Tasmanian woods. Improved peeling and clipping equipment was installed in 1961 and special jet driers obtained suitable for the refractory Tasmanian species.[45] Between 1951 and 1954, three Tasmanian sawmilling companies were taken over - Loongana Sawmill Pty Ltd (owned by Alstergren), Bruny Timbers Pty Ltd and A.E. Hilder Pty Ltd. These takeovers provided a large sawmill at Sulphur Creek, near Somerset, four forest mills in the north-west, and a mill cutting pine near Hobart.[46] These companies sold out, reputedly because they could not make the transition from logging moderate country with tramways, animals, steam winches and lowering gear to logging steep country, which required substantial new investment in bulldozers and roads as well as new operational skills.[47] In 1950, Tasmanian Plywood Mills introduced bulldozers in order to log previously inaccessible stands, and gradually replaced winches and animals for snigging.

During the 1950's production was reorganised. In the north, sawmilling was concentrated in the Sulphur Creek mill to give it a cut of 21,000 cubic metres a year and in 1955, another sawmill was moved to the plymill, which improved the selection of logs there. In the south a frame mill, which specialised in cutting large sections of Blue Gum, was purchased from A.J.& J.W. Dicker, and a new sawmill built alongside.

The three merchant firms combined and concentrated their capital in a complex network of holding, investment and operating companies that preserved dynastic interests, allowed additional capital to be raised, and permitted coherent management of large businesses. The two major holding companies were: Timber Holdings Ltd, formed in 1950, which held the network's Tasmanian and mainland interests in hardwood sawmilling, plywood and timber selling; and Softwood Holdings Ltd, formed in 1952, which owned pine plantations and sawmills on the mainland. Both companies gradually took over various sawmills, timber merchants, hardware and agency businesses on the mainland.[48]

The network built up by the mainland merchants (Gunnersen, Le Messurier and Alstergren, with lesser interests from Holyman, Atkins and others) was able to expand production in Tasmania by:

- concentrating their individual and family-based investments a network of companies;
- taking over smaller mills when the latter were unable to adopt new technology;
- integrating backwards from the market through kiln drying into log sawmilling; and
- integrating the production of plywood with sawmilling.

3. Foreign transnational corporation - the Kauri Timber Company

The Australian-owned Kauri Timber Company (KTC) was formed in the 1880's to take over kauri forests and sawmills in New Zealand.[49] The company had made some investments in Australia, but it was not until its New Zealand resource actually cut out in 1942 that KTC started a programme of take-overs of Australian companies to replace and expand its operations. Between 1944 and 1961, KTC took over at least 41 separate companies of sawmillers, plywood manufacturers, timber, joinery, hardware and steel merchants spread around Australia, disposed of its New Zealand interests, and started to improve its mills and yards.[50]

The company financed its expansion by issuing $800,000 of 4% preference shares in 1949 to the AMP Society, Australia's largest insurance company, and selling its New Zealand assets in 1961 for $3.8 million. The expansion was too rapid, however, many of the companies taken over were unprofitable, and their dispersion made management difficult. The recession in 1962 brought KTC near to bankruptcy and led to a scheme of rearrangement whereby a new company, Kauri Holdings Ltd, took over Kauri Timber Co Ltd and reduced the value of the shares by 44% in the process. Kauri Holdings had to realise some of its assets and sold the Western Australian business to a British company.[51] More of the mainland assets were sold during the 1960's - including pine plantations and sawmills to the timber merchants' company, Softwood Holdings.

In Tasmania, KTC took over three timber firms between 1945 and 1949. The first taken over was J.S. Lee and Sons, who had operated in the Smithton area in the north-west since the 1880's. They specialised in the Blackwood export trade. When taken over they had a main mill at Leesville outside Smithton where they cut, dried and dressed timber, five forest mills, a timber selling yard in Melbourne, and a store in Smithton. Next, KTC took over Circular Head Amalgamated Timbers (described in Chapter 6) from the network of mainland timber merchants. The network probably sold the business to fund the construction of Tasmanian Board Mills, described later.[52] KTC also took over F.H. Haines, who had a sawmill at Deloraine and a mill with seasoning yards and kilns at Devonport. The result of these takeovers was to provide KTC with a log input of over 67,500 cubic metres spread over 5 main mills; 3 in the Smithton-Stanley area (63,000 m^3) and 2 in Deloraine-Devonport (4,500 m^3 from Crown Land plus private purchases). Both the Leesville and Stanley mills were burnt just after KTC took them over.[53] KTC put both back into production, but was able to delay rebuilding the kilns at Stanley until 1957 as it had spare capacity in Melbourne. Kilns were added to the Smithton mill in 1960.

The dispersion of KTC's capital and the financial problems in the 1960's prevented the company from concentrating and modernising its Tasmanian production. In 1969, KTC obtained additional capital and expertise from a large United States paper and forest products company, the Boise Cascade Corporation, which was then expanding and trying to enter Australia as a possible stage for expansion into South-East Asia. Boise Cascade provided $2.5 million, in return for which it received slightly over one-third of the shares in Kauri Holdings and an option to purchase sufficient to give it a slight majority.[54] Kauri repaid its overdraft and, in 1970, bought two more mills to build up its log allocation in the Smithton area to 93,000 cubic metres - sufficient to plan the construction of Tasmania's largest sawmill, the Chatlee mill, in which the production of seven mills would be concentrated.[55]

KTC was able to expand in by:

- building up log resources, largely by taking over companies which had themselves had built up resources in earlier takeovers; and
- operating its own distribution network on the mainland.

The company's financial difficulties, and probably poor management, prevented it from being able to concentrate and improve its production facilities. Although some of the firms taken over had a long history of successful introduction and adaptation of new machines and techniques, KTC did not seem able to master current technological developments. Foreign capital was introduced as coming to the rescue of an ailing firm, and with its help the construction of the State's largest mill was planned.

4. Mainland Pulp and Paper Company - APPM

The paper company, APPM (described in Chapter 6), owned largely by the Collins House grouping of Australian and British capital, commenced sawmilling in 1954 and eventually became the largest miller in Tasmania. It entered sawmilling for two complementary reasons. Firstly, the forests that supplied the Burnie pulpmill contained very large logs - up to 2 metres or so in diameter - that had to be reduced to billets small enough for the chippers. The initial method of barking and splitting the logs and loading the billets on to trucks by hand demanded intensive back-breaking labour which was eliminated if logs were processed in a mill. Secondly, the company's own forests contained valuable sawlogs which could be processed profitably into sawn timber. In 1954, the company built a sawmill on the Burnie site, with a hydraulic debarker and twin band saws which could not only reduce pulp logs to billets but could also cut the best logs or parts of logs into flitches for resawing. The resawing section was equipped with a gang saw for cutting boards. A drying yard, kilns, and reconditioning chambers were added, as well as planing machines to dress the sawn timber. The sawmill was able to use the central services of water, steam, power and administration available on the site.

The company expanded by taking over a series of sawmills operating in its concession areas. In 1960, APPM took over eight small forest sawmills, two larger mills at Natone and Somerset, and two drying yards from the Cumming family. This business encountered a series of difficulties: tractor logging was started but strained Cummings' resources; the small mills were not efficient; and few workers chose to work in isolated forest mills.[56] APPM was able to take over the Wynyard Sawmilling Company from the Blackwell family for similar reasons. APPM closed the small forest mills and concentrated production at the Burnie, Natone, Somerset and Wynyard mills. Facilities were expanded in a series of steps in the 1960's and the Natone and Somerset mills were replaced with a new mill at Burnie in 1970.[57]

The company concentrated on producing high quality timber and were innovative in packaging it. They built up their production to a size that warranted setting up their own marketing organisation on the mainland and were able to by-pass the established mainland merchants' network.[58] The successful expansion of APPM into sawmilling was due to:

- having access to plenty of sawlogs on its own property, the acquisition of quotas on Crown Lands by buying other firms, and securing some allocations in its own right;
- the complementary benefits of joint production of pulpwood billets and sawn timber in the same mill;
- having plenty of capital and expertise to master the change in logging systems; and
- being large and strong enough to arrange its own sales on the mainland.

SAWMILLERS *VERSUS* THE STATE : THREE INSTANCES

The intense demand for timber in the post-war years and the extension of non-Tasmanian ownership led to several conflicts between the Tasmanian state and the sawmillers. We will examine three instances.

1. Timber for housing versus exports

In the immediate post-war period, the demand for timber outstripped the rise in production. By 1950 exports had almost doubled, production was unable to increase as fast, imports did not meet the gap, and a shortage of timber developed. Tasmanian shortages were greatest for kiln-dried and dressed products - weatherboards and flooring - produced by the larger mills which typically were owned by non-Tasmanian companies. Timber also was in very short supply in Sydney and Melbourne, where prices were higher.

To the Tasmanian public, the shortages were associated - rightly or wrongly - more with non-Tasmanian ownership of the larger mills than with the relative levels at which prices were controlled.[59] A sub-committee set up by the Cabinet blamed the shortage of weatherboards and high prices on timber's being exported in larger sizes rather than being processed for domestic use. The sawmillers replied that Tasmanian prices were 'unattractive'.[60] The State government was unable constitutionally to restrict the trade between the States by direct regulation and sought indirect controls.

The indirect controls employed (attaching conditions to forest permits) were weak measures since alternative log supplies were available from private properties (they comprised 40-44% of logs cut 1945-50), and since legal obstacles prevented the Commission from imposing a condition on permits that priority be given to Tasmanian orders. It could do little more than threaten that:

> ...While the Commission cannot prevent interstate sales of timber, it has declared its policy to the industry, that no sawmill can expect either extensive protection of future supplies of raw material or continued non-competitive sales of Crown timber unless it contributes its proper share of timber to meet the local and general needs of Tasmania in the sizes and grades necessary.[61]

During 1950-51, the Commission claimed it had only issued permits for *new* forest areas to sawmills selling their output to the local market, and had not issued them to mainland based sawmills. The immediate force of this was negligible as the larger mills were well established and only needed to transfer or extend their *existing*

permits. The Commission considered that a proposal made in the Legislative Council that it should refuse to transfer or renew permits for mainland firms was 'fraught with difficulties', namely those of defining and detecting the source of ultimate control.[62]

A Board of Inquiry was appointed which expected further shortages and recommended that indirect forest controls should be maintained, price control should be kept, and the state should compulsorily acquire timber and assign it where needed.[63] By the time the Board's report was released the Korean war boom had collapsed, and instead of shortages, Tasmanian mills had difficulty in selling their timber.[64]

2. Imports *versus* employment

The contradiction between the Tasmanian state and non-Tasmanian companies flared again during the 1961-62 economic downturn when Tasmanian timber exports dropped sharply, some mills closed, and employment fell. The mainland merchants were suspected of selling Asian timbers at the expense of maintaining employment in their Tasmanian mills. The question of ownership and control was again raised in the Assembly. The Forestry Commission pointed out that almost without exception sawmills had registered their offices in Tasmania and that the extent of mainland control would be very difficult to trace, particularly where mainland interests had partial shares in partnerships and individual businesses not registered as companies. More importantly, it asserted that its charter was limited to management and declared:

> The Commission has not been concerned with who buys a company's shares, but with the management of the logging and milling operations and the responsibility therefore.[65]

3. Timber for the apple crop

Apple-growers, particularly in the major area in southern Tasmania, had long-standing difficulties during bumper seasons in obtaining enough cases to pack their crop.

Shortages had arisen after the war - from a combination of four factors. Firstly, imports had resumed at only about one-third of their pre-war quantity, mainly because prices had risen to double that of a local hardwood case. Secondly, the replacement of premium grade imported pine shooks with hardwood cases made with ends from seasoned and dressed timber had required additional kiln-seasoning and dressing equipment, which was quite outside the scope of small case mills. Thirdly, the medium and large mills, which had previously cut shooks in slack periods, used their scarce labour to cut house timbers, and their kiln facilities for flooring and weatherboards. Moreover, the very strong mainland markets were offering better prices and accepting timber for building which normally could only have been cut for cases. Lastly, the quantity of apples harvested was fluctuating more markedly than usual from year to year.

The apple growers were a numerous and important constituency whose problems commanded the attention of the ALP government. In 1948, the government proposed that the Forestry Commission set up a government mill and depot.[66] The facilitating Bill was strongly supported by the fruitgrowers and equally strongly attacked by sawmillers and the Liberal party, which saw the Bill as '... the first step in nationalising the milling industry ...'[67] The Bill was emasculated in the Legislative Council and withdrawn.[68]

Imports from North America were cancelled in 1950 and 1951 (due to Britain's currency problems), apple crops were good, and the government presented its proposal again, only to have the Legislative Council reject it again.[69] In spite of price increases, cases were in short supply once more. The State Fruit Board tried to get the Bill re-introduced but the TTA maintained its opposition and nothing was done.[70] As with building timber, the 1952-3 downturn in the economy and the removal of Tasmanian price control appeared to eliminate the shortages.

PULP AND PAPER MAKING

The pulp and paper industry expanded rapidly in Tasmania after the Second World War. By the end of the 1960's, production had increased by five times; over 2,623 more people were employed in the mills, overtaking the long-established sawmilling industry.

Table 7.4

Production of pulp and paper and employment, selected years [71]

Year	Quantity (tonne 000)			Employment in Pulp and Paper Mills
	Printing & Writing APPM	Newsprint ANM	Pulp APM	
1948/49	24.2 *	30.8	0	1,136**
1958/59	64.2 *	84.4	0	n.a.
1968/69	117.8	123.5	51.1	3,759

* Estimates ** 1945/46

Production was increased by the entry into the industry of two further companies, APM and Tasmanian Board Mills, and by the build-up of the existing mills at Boyer and Burnie. Expansion brought the pulp and paper industry into closer contact with sawmilling. Integration of the two industries was obtained in some cases by greater state planning, and in others by the absorption of the sawmillers into the paper companies. We will consider mills in turn.

THE KILLAFADDY MILL - TBM

The successful start of a small box board mill by a new mainland company in 1943, and the endurance of three smaller independently-owned mills producing special boards, appeared to demonstrate that APM's long-held monopoly of paperboard production was not inviolable. On these grounds, a group of Tasmanian and mainland capitalists proposed to build a small mill at Killafaddy (part of

Launceston) in northern Tasmania to produce special products, largely for the local market. The proposers were Holyman's (the Tasmanian shipping company with interests in sawmilling), K.D. Atkins (a Launceston timber merchant and sawmiller), and the network of mainland timber merchants represented in Kilndried Hardwoods, described previously. In 1946, they formed Tasmanian Paper and Timber Mills Ltd to concentrate their capital and obtained a concession over Crown forests in the Asbestos Range area. The provisions for the concession were intermediate between those for the concessions granted to ANM and APPM (described in Chapter 6), and those governing concessions granted in the 1950's and 1960's, described later.[72] The legislation was regarded as a progressive measure at the time, but as the concession lapsed, its provisions need not be elaborated.[73]

In 1949, the company changed its name to Tasmanian Board Mills Ltd (TBM), issued $1 million of shares to the public (which brought the issued capital up to $1.48 million), and started to build the mill. This consisted of a small sulphite pulp plant, one board machine, and a pasting plant to make solid fibre board for containers and building board. There were many delays in importing the machinery and it was not until late in 1953 that production started.[74]

The mill was not successful. Substantial losses were made for 18 months before production was stopped and the board machine sold to APM. Several factors contributed to the failure. The long delays in construction lost TBM the chance of entering the market in the immediate post-war years when competition was slight. The mill was then too small to compete with imports and APM on the local market. The other small mills closed during the 1950's and 1960's or, in one case, expanded to a more economic size. Further, the market was not readily entered due to prior agreements between potential customers and the major supplier, APM.[75]

TBM after the paper mill

TBM continued to operate as a sawmilling company after the pulp and paper mill venture failed. The company owned at least 12 sawmills, the central mill site at Killafaddy, 12,000 hectares of forest purchased for pulping, and held permits over Crown forest for milling timber both in the north and in the Huon region. For a decade the company tried to pay off its accumulated debts and then, in 1965, wrote down the value of its shares by 50%. Although this eliminated debts, the company could not finance the modernisation and concentration of its timber production. In 1968, APPM unsuccessfully tried to buy TBM, but in 1970 a British company bought 80% of the ordinary shares, enabling it to introduce new capital for a programme of concentration and diversification carried out in the 1970's.[76]

PORT HUON MILL - APM

The advent of the Forestry Commission in 1947 marked the beginning of planned management of the forests, as envisaged in the *Forestry Act* of 1920. The Commission declared its minimum objectives to be the conservation of the forests suppling industry, fire protection and the conduct of forest operations in '... an orderly planned manner ...' based on permanent rural establishments. Beyond these it took more expansionist and developmentalist views seeking to dedicate more land as State Forests and to reforest abandoned farm land. It interpreted the State's hydro-industrialisation policy to be:

> ...the development of industries dependent on timber to the maximum possible extent, and the productive utilization as far as is possible of land in the State not suitable for other use.[77]

The forests in the south of Tasmania contained the major resource of high quality pulpwood outside the ANM and APPM concessions, and their stands of regrowth were important as a resource of sawlogs for the future. The Forestry Commission started to assess them and by 1953 had accumulated sufficient information to

report the potential of the area, plan how it should be worked, and encourage a new pulp mill.

The first interest in the resource came in 1953-54 from two groups intent on manufacturing rayon. Both were based on British capital, one in association with Italian manufacturers and one connected with the network of Australian timber merchants.[78] Neither proposal was definite.

Legislation was passed in 1954 to authorise the Forestry Commission to 'sell' the resource by allowing it to grant options for investigation (for 12 months, with a discretionary extension of 3 months) and the right to grant or refuse the concession to any applicant.[79]

The two rayon groups and the existing newsprint manufacturer, ANM, applied for the concession. Rayon was investigated first but with increasing competition from other synthetic fibres, rayon manufacturers lost interest in Tasmania.[80] The Commission then granted the option to investigate the resource to ANM. After 12 months, their investigations were not complete and a 3 month extension was granted. ANM's investigations were thorough. They tested 900 tonnes of wood by the groundwood process but found it not to be as good as that from their Florentine concession. Further testing by a semi-chemical process was needed and the Act was quickly revised to allow the Commission to grant a 12 month extension, which it duly did.[81] In the end, ANM relinquished their option. They claimed technical difficulties and economic reasons, though the overriding cause appears to have been the reluctance of some newspapers to contract to buy local paper when they expected the price of imports to drop.[82]

The 1959 Acts - Pulp exports

The Forestry Commission in 1958 next let the option to L.R. Benjamin (the pioneer of eucalypt pulping research, then retired from ANM's mill) as a Tasmanian promoter for Australia's largest paper company, APM, which operated a pulpmill and several paper mills on the mainland.[83]

APM investigated the concession thoroughly and tested 1,500 tonnes of wood in their Victorian pulpmill.[84] Whereas the ANM and APPM mills made the wood into paper in Tasmnania, APM planned to make only pulp which would be exported to be made into packaging papers on the company's mainland paper machines, mainly in Sydney. With no other proposals in sight, the Commission and the government accepted it. Two new Bills, to make minor changes and additions to the 1954 Act, passed through parliament relatively smoothly, probably due to their having been discussed with local sawmillers and municipalities during their preparation.[85]

The legislation provided rights to 105,800 hectares of forest and specified the minimum and maximum quantities of pulpwood to be cut. The company was allowed to cut some logs for sawmilling, but should it do so could be obliged to provide case timber for the apple crop. The Commission was empowered to integrate pulpwood and sawmill logging. It could direct loggers to produce and deliver sawlogs and pulpwood, and could settle disputes on costs.

The legislation specified that two types of plan were to be prepared:

A *Working Plan*

The first *Working Plan*, duly approved by the Governor, was issued in conjunction with the Act.[86] It displayed the yields of sawmill logs and pulpwood that could be sustained for the period of the Act (80 years), and the defined standards and responsibilities for logging. Revisions at intervals of ten years were specified.

A *Plan of Operations*

The *Plan of Operations* was for five years and was to be updated annually. It included the logging plan (defining the areas to be worked and the yields of sawlogs and pulpwood), and the programme of road maintenance and construction.

Although the plans regulated both APM and the sawmillers, they were prepared between the Forestry Commission and APM (through a committee of two officers from each organisation), leaving the sawmillers to be consulted by the Commission only '... as necessary for the

purpose.' They were consulted, but they did not enter the planning process formally. Thus the smaller competitive fractions of capital became followers in an action planned between monopoly capital and the state administration.

The Port Huon pulpmill

The Port Huon pulpmill was built at Geeveston in 1962 on the site of the Huon Timber Company's old band mill, later used by the Kermandie research mill. APM adopted and adapted a new continuous process for making pulp, and developed a novel way of pressing the pulp into pellets that could be stored in bulk and loaded on to ships by conveyor. The mill, which cost about $6 million, was small, compact and only employed about 80 people on the site.

When the Port Huon mill started in 1962, the Commission had already started roading into inaccessible parts of the Arve catchment, and several sawmills held permits for sawlogs within the concession. Logging was carried out directly by the smaller mills and by logging contractors to the larger ones. Integration between logging sawlogs and pulpwood was achieved by negotiation. Sawmillers and contractors were persuaded to cut pulpwood in their existing operations, and APM required its contractors to cut sawlogs as well as pulpwood wherever possible. The Commission never exercised the directive powers provided in the Act.[87] APM did not start a sawmill nor take over those operating in the concession.

The small businesses - case mills, logging contractors and truck owners - formed the Huon Timber Association in the mid 1960's. The Association's main function was to negotiate rates with APM, but it also negotiated rates for green sawn timber, and was concerned with obtaining safe working conditions in the bush.[88] The large sawmillers were members of the TTA rather than the Huon Timber Association.

In the Port Huon mill, the workers were represented by the Pulp and Paper Workers Federation of Australia (PPWFA) which obtained conditions and welfare schemes broadly similar to those in the other

two mills.[89] The bush workers employed by the many contractors and small sawmillers were represented by the ATWU-T, though not all belonged to the union.

THE BOYER MILL - ANM

Australian production of newsprint was increased four-fold during the 1950's and 1960's by ANM's expansions of the Boyer mill in the Derwent Valley. The first step in expansion occurred in 1953 when the second paper machine started; and the second step in 1969 when the third machine started. These major steps were supported by a number of additions to the pulping and forest production processes. As with the establishment of the mill, each step was connected with changes in imports, capital, the policies of ANM's customer-shareholders, technical developments, and perhaps pressure from the Tasmanian government.

Table 7.5

Newsprint imports by origin, 1950-1969 [90]

Period	Country of Origin				
	U.K.	Canada	New Zealand	Scandinavia & Other	All
	Proportions by weight (%)				
1949/50-1953/54	48	19	-	33	100
1954/55-1958/59	38	33	13	16	100
1959/60-1963/64	8	46	29	17	100
1964/65-1968/69	-	44	40	16	100

The first step

The addition of the second paper machine in 1953 coincided with shifts in both the pulp and paper markets towards New Zealand. During the dollar shortages of the 1950's, it was Britain and Scandinavia rather than Canada (the pre-war supplier) that provided Australia with newsprint. From 1956, New Zealand and Canada took an

increasing share of the market, while Britain was eliminated. During the war, the local pulp had been mixed with 22-25% of sulphite pulp imported from Canada under a 10 year contract. When this expired in 1952, 18% of kraft pulp, made in New Zealand, was used instead.[91]

In the 1950's increasing world prices enabled ANM to make substantial profits, which were used to finance the improvements and increase dividends. The company was restructured as a public one though the two founders - the Herald and Fairfax newspaper companies - still remained in effective control, while the two other major newspaper groups - News Ltd and Consolidated Press - remained aloof.[92] Production was still sold to Australian newspapers on 10-year contracts based on the New York price of Canadian newsprint.

During the late 1940's and 1950's the forests in the concession were assessed and found to contain only about 50% of oldgrowth Swamp Gum, the only species from which acceptable groundwood pulp could be made. ANM directed its research to developing a new (chemi-mechanical cold soda) process that could pulp the other species cheaply, and a plant was built in 1957 which enabled 20% of this type of pulp to be used. Several other improvements were made, including one to impregnate eucalypt regrowth with chemicals enabling them to be ground.[93]

The second step

The third paper machine, installed in 1969, almost doubled the production capacity of ANM's Boyer mill again. This step was taken only after the market had been reorganised, and integrated with New Zealand production; it required changes in ANM's structure, the mobilisation of additional capital, and legislative amendments.

The manufacture of newsprint in New Zealand was started in 1956 by the New Zealand state and private capitalists who founded the Tasman Pulp and Paper Co. In 1959, the Bowater Corporation, which was owned largely by British and American capital and which held a leading position in the British and Canadian newsprint trade,

invested in Tasman, took over the management of the mill, and sold its products around the world.[94] In 1964, the New Zealand government put in more money, production was doubled, and Bowaters apparently orchestrated a division of the Australian market between Tasman and ANM. The resultant oligopoly was sealed by an exchange of directors and $2 million worth of shares.[95]

In 1966, ANM renegotiated the sales contracts to its shareholder/customers, undertook to restrain price increases to a maximum of $1.97 per tonne annually, and persuaded the two major groups that had refrained from investing in ANM, News Ltd and Consolidated Press, to buy $4.6 million of shares. Thus every major consumer had a stake in domestic manufacturing, and through it was linked to New Zealand and to international producers in an ordered balance.[96]

The Tasmanian government pressed ANM to expand. By 1964, a Minister was threatening that the government might '... reconsider its attitude to the concession ...'[97] The following year, the company announced that it would instal the third paper machine and the government promptly legislated not to reduce the concession but to increase it.[98] The base royalty rate for pulpwood was increased from $0.20 to $0.30 per cubic metre, the period of the agreement was extended, and the company's hold on the concession was strengthened.[99] The relationship between ANM and the sawmillers was legislated in two ways. Firstly, the supply of 30,100 cubic metres of high quality sawlogs to two of the major Hobart timber merchant/sawmilling firms (Risby Bros and Kemp & Denning) was assured. Secondly, the possibility of ANM competing with them was further reduced, as ANM's right to cut saw timber was reduced from 20% to 5% of the total volume cut. Thus the legislation integrated the two industries only to a very limited extent, but it did remove competition over the resource by consigning the bulk of sawlogs to the pulpmill. Estimates of the proportion of input to the pulpmill that was of a quality suitable for sawmilling have never been made public, but can be expected to be of the order of 35 to 40%.[100]

THE BURNIE AND WESLEY VALE MILLS - APPM

Associated Pulp and Paper Mills Ltd (APPM) not only increased its production of fine paper by almost five times during the 1950's and 1960's, but also diversified its production into sawmilling and the manufacture of hardboard and particleboard. This expansion was funded from accumulated capital and a threefold increase in share capital. By the end of the 1960's APPM had become one of Tasmania's three or four largest companies.[101]

In making fine papers, APPM achieved part of its expansion by adding paper machines at the Burnie mill and building a new mill at Wesley Vale; part through joint ventures with British capital, which it subsequently displaced; and part by taking over a new entrant. The first joint venture built a coating mill at Ballarat (Victoria) in 1950 - though within four years APPM was able to buy out its British partner. The second joint venture was with the Thomas Owen company at Burnie (described later) - though it too was to become wholly owned by APPM. The one independent entrant to the sector was the British paper company, Wiggins Teape, which built a mill at Shoalhaven (NSW) in 1956. Some of its papers were specialised and did not compete with APPM's, but entry into the market for others was impeded by purchasing agreements between the larger paper merchants and APPM. The company apparently was unable to make satisfactory profits. A transnational conglomerate, The British American Tobacco Company, took over Wiggins Teape and soon sold the mill to APPM in exchange for shares.[102] Thus APPM, which had been predominantly controlled by the Anglo-Australian Collins House group, became partly (25%) the property of a foreign transnational corporation.

Paper production at Burnie

Immediately the war ended, APPM expanded production in the Burnie mill. A third paper machine was added in 1949 and a fourth soon after. These machines were financed from capital accumulated earlier and new shares taken up by existing shareholders[103]

APPM entered the small Australian market for food wrapping papers by forming a new company with a long-established British manufacturer and exporter, Thomas Owen. In 1948, the Tasmanian government duly legislated to give the new venture rights to take water and dispose of effluent.[104] The new papermill was built at Burnie with two small paper machines and a parchment making machine. It drew on APPM's existing mill for pulp, water, steam, administration, etc. It was no sooner started in 1952 than Thomas Owen sold out to APPM. APPM later added two larger paper machines.

The production of pulp was increased in 1949 by a cooking process, developed by the company, that raised output from the existing plant by 40%. It was increased further by two continuous digesters, installed in 1956 and 1964.

Paper production at Wesley Vale

Further expansion at Burnie was limited by the cramped site, the limited quantity of wood on the company's property and concession, and the high cost of hauling wood from forests to the east; any major expansion was dependent on the company's obtaining a further concession and a new site.

In 1961, they anounced a proposal to build a large new pulp and paper mill at Wesley Vale, near Devonport (some 60 kilometres east of Burnie) at an estimated cost of $25 million. The state readily granted a second forest concession, under conditions similar to those for APM's at Port Huon, provided that APPM built the new mill by 1970.[105] During the 1960's imports competed strongly and periodic downturns in sales were followed by reductions in production, dismissals of workers, and urgent appeals for temporary assistance and lasting tariff protection.[106] Even though profits were good (at the average rate of 13.9%) they were subject to alarming fluctuations. In 1962 they fell to 5.9%.[107] The company pursued its expansion plans cautiously and announced in 1965 that it would build the Wesley Vale project in stages, first the paper mill, which would receive its pulp from Burnie, and only later the pulp plant.[108]

Construction eventually started but paper was not produced at Wesley Vale until 1970.

Diversification and integration

The complementary advantages of the different types of production became sharply apparent to APPM in 1946 when it started to use its own forests. The company '... believe[d] it to be essential [to] utilise every bit of timber that can be profitably turned to account ...', and diversified into sawmilling and the making of hardboard and later, particleboard.[109] Thus the company sought to integrate production within the firm. APPM's entry into sawmilling has been described earlier. It did not, or was not able to, take over all the sawmills operating in both concessions, so that some integration outside the firm was still required.

The company's forests contained wood not suitable for pulp, which could be used for hardboard. A hardboard plant was built on the Burnie site where several services were already available. It commenced production in 1951. The market expanded and the company built a second mill at Ipswich in Queensland in 1958. The Colonial Sugar Refining Company, which also manufactured hardboard, combined interests with APPM, first to form an export sales company and second, in 1967, to form Hardboards Australia Ltd, which operated the hardboard mills of both companies.[110]

APPM expanded into the growing market for particle board by building a factory at Wesley Vale in 1963. At first this mill used thinnings from the Commission's pine plantations, but later used wood from APPM's own plantations. By contrast, the declining market for hardboard was to lead Hardboards Australia to concentrate their Australian production in other mills and close the Burnie plant in 1978.

Integration on the Burnie concession

The 1926 Act which granted the Burnie concession (described in Chapter 7) did not resolve the problems of integrating and controll-

ing competition for logs; indeed several ambiguities confused them. The main issue was whether APPM had rights to the sawlogs and plylogs or whether the Department could grant them to others by issuing Exclusive Forest Permits. The issue became prominent in 1941 when Alstergrens were granted forest permits inside the APPM concession to supply Tasmanian Plywood Mills and their own sawmill (described in Chapter 6). Given the exigencies of war the permits stood, but the Solicitor-General thought the rights of the Crown and all other parties should be reconsidered and clearly defined. A Bill to amend APPM's 1936 Act was drafted in 1944 but was never put forward; given the scandals then current it was probably held over until the Royal Commission was completed.[111]

Thereafter, the Forestry Commission sought resolution by discussion and agreement. It issued permits covering 26,000 hectares of the concession - approximately the area it could dedicate as State Forest under the 1926 Act. About 47% of the permit areas were held by mills connected to the network of mainland timber merchants (including Tasmanian Plywood Mills and Kilndried Hardwoods), 35% by mills which APPM took over in the 1960's, and 18% by other sawmills. Although APPM maintained that their rights *de jure* might embrace sawlogs, the Commission was successful in obtaining *de facto* recognition of the rights of permit holders and in persuading APPM to deliver logs to sawmills holding permits.[112] Integration was thus achieved partly within the firm and partly by persuasion from the state's administration.

The 1926 Act envisaged that about one-quarter of the concession would be dedicated as State Forest, carefully planned and regenerated. It did not specify which party should pay for the work, nor did it provide for planning or regeneration over the remaining three-quarters. Again, agreement was reached *de facto*, by practice and local agreement. APPM took on the roading, most of the fire protection and regeneration, while the Commission took on regeneration in the State Forest.[113]

EXPANDING THE FORESTRY COMMISSION

The expansion of sawmilling and pulp and paper making was accompanied not only by legislation, but also by an expansion of the Forestry Commission's staff and expenditure.[114] Walker reconstructed the Commission's accounts from 1936/7 and in detail from 1953/54 to 1977/78.[115] He distinguished between a 'Native Forest Operations Account' which covered annual revenues and expenditures (including notional interest on public funds spent on roads etc.), and a 'Fund Statement' showing capital invested for long-term benefit such as plantations and roads (Table 7.7, Appendix 1). We need to consider Walker's analysis in functional rather than accounting categories.

In the Native Forest Operations Account, the revenue (royalty and rents) came from production. Expenditure was partly productive (the maintenance of roads, marketing, and some protection), partly reproductive (regeneration, most protection, mapping, surveys, and silvicultural research), and partly integrative (some planning). Expenditure on planning and research - activities with a high integrative and long-range content - increased almost four times as fast as the average. The Fund Statements show that most of the funds received from the State and Commonwealth were spent on building roads - for a mixture of functions - and establishing plantations to ensure long-term reproduction and expansion. Overall, the Commission's expansion was greatest for the function of long-term reproduction and expansion.

Table 7.6

Abstract of the state's forestry accounts, 1953/54 to 1967/68

	5 year periods ($ 000's)			Increase
	1953/54 to 1957/58	1958/59 to 1962/63	1962/64 to 1967/68	1953/4-57/8 to 1963/4-67/8 (Real terms 1966/7 %)
Native Forest Operations Account				
Revenue	3,606	4,966	7,036	55
Expenditure on current operations	2,673	4,169	5,167	55
Interest on loan funds	579	1,229	2,326	
Total Costs	3,252	5,398	7,492	84
Profit (loss)	354	(432)	(456)	
Fund Statement				
Funds received	3,978	6,075	12,623	254
Application of funds				
Development of native forest	1,889	2,599	3,455	146
Development of plantations	1,391	2,453	6,483	373

The state's increased emphasis on the reproductive and integrative functions occurred concurrently with continued concentration of and increased investment by mainland merchants and foreign capitals in sawmilling, and above all by the great expansion of the pulp and paper industry. It is notable that the Commission's expansion was achieved without incurring the traditional opposition from Tasmanian sawmillers in the small business and competitive structures.[116] This is attributed primarily to the fact that the immediate costs of expanding the reproductive functions were funded from government loans. That is, the reproduction of the forest resource occurred with the rise of larger capitals - particularly that in the monopoly structure - and was charged substantially to the taxpayer rather than the industrial user.

EXPANSION AND STRUCTURAL CHANGES

The period we have considered, 1945-1969, was certainly one of development in the popular sense of industrialisation, physical change, and economic boom. It was also one of structural change that occurred in a complex pattern not to be explained by single or simple determinants.

The *overall* trend was for capital to be controlled by fewer hands. In sawmilling, the surge of the small business structure was followed by a decline in the number of working proprietors. Moreover, the large mills in both the monopoly and competitive structures actively took over smaller mills. Similarly, the attempt by relatively small capital to enter the pulp and paper sector was short-lived.

Concentration operated in the different structures to different effect. With respect to the entry of foreign capital, we saw take-overs by foreign transnational corporations of Australian and Tasmanian owned sawmills, the entry and retreat of British capital in paper making, and the successful entry of transnational capital as partial owner of APPM. We have also seen, in the case of ANM, that the expansion of Australian capital can be affected by foreign capital, through intricate articulations. Many of the larger mainland and Tasmanian firms, operating in the competitive and monopoly structures, throve in the economic boom. However the smaller firms in the competitive structure - those who could not adopt more expensive logging techniques, and case mills that lost their market - failed to survive. Concentration resulted in an increasing proportion of the industry being controlled by non-Tasmanian hands.

The state's forestry administration was expanded and strengthened, but it failed to contain the boom in sawmilling to a level that the public forest resource could sustain in the long run. For small competitive capital, it supported the short-term *productive* function of forestry at the expense of the *reproductive*

one. However, the Tasmanian state acted in general harmony with the long-term interests of the greater but mostly non-Tasmanian capital. In repeated instances we saw that the state had little or no influence on the decisions made on larger spatial scales. The difficulties in asserting Tasmanian interests over others were doubtless formidable, but it is notable that the state's administration sought to restrict its responsibilities to the technical and exclude the inherent conflict. In doing so it made the state's function to serve capital rather than Tasmania.

We saw that forestry's reproductive function was established by the state in direct and necessary correlation with the rise of larger capitals. We also saw that the state expanded its integrative function, and this was to become of critical importance as wood production doubled in the 1970's with the advent of the woodchips export industry.

Chapter 8

THE EXPORT OF WOODCHIPS AND STRUCTURAL CHANGE, 1970-1980

The long boom in the capitalist world's economies, described in the previous chapter, ended sharply with the economic crises of the early-1970's. Inflation, fuelled by the United States' spending on the Vietnam war, soared further when the OPEC cartel of oil-exporting nations secured a four-fold increase in the price of oil, late in 1973. Economic growth fell and unemployment rose throughout the core of rich industrialised countries, and the resulting condition, 'stagflation', persisted through the remainder of the 1970's. This period has been considered not only as an economic crisis, but also as marking a turning point for capitalism as a whole. Firstly, the hegemony of the United States was no longer a thing beyond dispute, as she retreated from Vietnam and as her relative economic growth declined. Not only did Japan and the European Economic Community improve their relative positions somewhat, but several formerly peripheral countries were industrialising rapidly. Secondly, while manufacturing increased in such countries as the Phillipines, Malaysia, Taiwan, South Korea, Singapore and Hong Kong, it declined in many traditional centres of industry in the core - particularly in Britain. Thirdly, the economic crises, de-industrialisation, unemployment, and the difficulties of maintaining the social welfare services built up during the long boom, led to political reshuffling and fundamental questioning within developed industrial countries.[1]

The global redistribution of production was partly or mainly the result of the rise of the global sub-mode of production, which appears likely to characterise the emergence of a new stage in the historic development of capitalism. In this sub-mode capital moves freely between sectors and nations. The resultant power to industrialise or de-industrialise, to develop or undevelop particular regions provides capital with two strong levers that are less available to other sub-modes: firstly, pressures from reserves of labour in the low-wage peripheral nations can be brought to bear on

labour in the high-wage countries of the core and, secondly, capital can play nation off against nation to obtain cheaper resources, greater 'assistance', or coercive labour legislation.

In this chapter, we will consider how the wood industries in Tasmania developed within the new world structure. Firstly, we will note how the global changes were reflected in the Australian economy. Then we will consider the three major sectors of the Tasmanian industry in turn: the export woodchip mills which were established during the 1970's and operated in the global structure of production, the pulp and paper mills which continued, and the sawmilling sector which declined. Finally, we will consider the continued concentration of capital and the emergence of APPM as the dominant corporation. In all, we will examine the complex relationships that developed between the different fractions of capital, and the actions of the state.

AUSTRALIA

In Australia, economic growth and industrial development proceeded much along the lines established in the 1960's - though with increasing inflation - until the economic crisis which commenced in 1974 and 1975. In those years, inflation rose from 2.4% to 15.1%, the economic growth rate fell from 5.1% to 1.5%, and unemployment rose from a general level under 2% to 4.7% of the workforce. Although inflation was subsequently reduced to under 10% and the rate of economic growth recovered to nearly 3%, static employment could not absorb the natural increase in the workforce so that unemployment grew to be consistently over 6% by the end of the decade.[2] The economy underwent a number of structural changes whose salient features were:

Exports *vs.* manufacturing

> The economy moved towards one that exports basic raw materials, such as minerals, coal and wood, for manufacturing elsewhere, rather than one that industrialises further.

Export markets

Japan and the newly industrialising states in South-East Asia became increasingly important markets for Australian exports. During the 1970's, Japan took 30% of Australia's exports and by the end of the 1970's, the newly industrialising states along with China (and minor quantities to other Asian nations) accounted for a further 20%.[3] All the woodchip exports went to Japan, with the exception of small quantities to South Korea.

Foreign capital

Foreign capital continued to be invested in Australian industry but was concentrated more in mining, coal, oil and chemicals, than in manufacturing.[4] From the mid-1970's, the foreign controlled companies already in Australia were able to strengthen their hold by raising over half the funds they required for expansion from accumulated capital and local borrowing.[5]

Concentration and sectoral change

The economic recession pressed unevenly on Australian industry - harder on small capital than large; harder on the manufacturing and construction sectors than others. The differentials can be seen in several ways. Bankruptcy proceedings increased in number but involved mostly small assets and liabilities, indicating that they involved small concerns.[6] Concentration was also achieved by mergers and takeovers - some of comparatively large institutions - and by the closure of the least profitable operations. In manufacturing, the number of factories fell by 1,200 from a peak of 37,000 in 1973-74.[7] Whereas the total number of people employed remained almost constant from 1974 to 1979, the number in manufacturing and construction fell by 14% and the number of houses and flats built annually fell by over 20% in the same period.[8]

TASMANIA

The structural and recessionary changes in the Australian economy had most uneven regional consequences. Some areas or towns centred on particular export projects, boomed while others, such as the inner city areas of Sydney and Melbourne, or regional towns like Launceston, lost employment as manufacturing declined in sectors like textiles. Overall, Tasmania fared badly - average incomes were 12% less than for Australia as a whole; there were more poor people; unemployment was one-third higher; and the net outmigration, particularly of young people, continued.

The Tasmanian government (with Commonwealth financial backing) looked hard at opportunities for creating employment and how development and conservation needs might be balanced. After numerous studies a *State Strategy Plan* was drafted in 1976.[9] It considered that forestry and timber processing offered the greatest potential of all resource based industries for rapid expansion and that its encouragement with state assistance should be investigated.

The Commonwealth government commissioned an inquiry (the Callaghan Report) into the 'Tasmanian Problem', which reported in 1977 that:

> Tasmania is heading towards another Newfoundland or Ireland situation [ie being a permanently depressed region] but one in which the rate of economic decline has been moderated by what might be called the political muscle of the state gained through Federation.[10]

The lower average incomes in Tasmania were attributed mainly to: the lower proportion of very high income earners (directors, executives, professionals, etc.); the proportionately lower profits received from shares and investment; and poor returns from farming.[11] The Tasmanian state was found to be severely constrained in its ability to raise revenue, but was supported by higher grants and loans from the Commonwealth than any other State.

The Callaghan inquiry concluded that '... Tasmania's major problem is Bass Strait ...' (due to the high cost and the irregular nature of shipping to the mainland). Its minor problems were those

of industrial dispersion, proliferation of local governments, and poor internal transport. The report noted that much of the industrial production was concentrated into:

> ... enclaves of capital intensive units of production [eg. the pulp and paper mills] which do not have as big an economic effect on the state as is sometimes suggested as they export their products ...[12]

The report called for a new development strategy that would diversify the industrial base by encouraging the expansion of small and medium business (rather than attracting heavy industry with the policies of hydro-industrialisation and concession). The report made a few topical 'blasts' at conservationists, who might hamper industrialisation, and a number of specific recommendations about smaller matters. Generally it thrust '... the primary responsibility for the economic situation...on the people of [the] State ...' It recognised that a small State was could not 'assist' industry as lavishly as larger ones, and concluded that the relative economic decline and net outmigration would continue.

The changes to the Australian economy were reflected in changes in the Tasmanian wood industries. Exports of woodchips to Japan increased spectacularly during the 1970's to require more than double the quantity of wood to be cut by the end of the decade. By contrast the domestic production of pulp and paper expanded only a little after 1974. The production of sawn timber dropped by 15% and was concentrated by the closing of 35% of the sawmills, while the concentration of capital into fewer hands was even more marked.

WOODCHIP EXPORTS

From the mid-1960's, Japan's rapidly expanding pulp and paper industry sought raw materials for making printing and writing paper in addition to the softwoods it obtained from North America. Australia had uncommitted resources of eucalypts for which the pulping technology had been proved already. A number of Japanese trading and paper companies sought and obtained numerous proposals,

trading and paper companies sought and obtained numerous proposals, mostly from well established Australian companies, to build and operate mills that would chip wood for loading on to Japanese ships.

During the 1970's, five woodchip mills were built; the first in New South Wales in 1970, the next three in Tasmania in 1971 and 1972, and the last in Western Australia in 1976. The mills were large - one in Tasmania being the world's largest - but comparatively simple. At the mills, logs brought from the forest were debarked, reduced in size where necessary, and chipped into pieces (about 5-6 cm long, 2-3 cm broad and 1 cm thick). The mills were adjacent to water deep enough for vessels of 30-50,000 tonnes, had areas to stockpile enough chips to fill 2-3 ships, and were equipped with pipe lines and conveyors to stock the chips and load ships rapidly. The largest mill cost about $12 million.[13] Woodchips were also produced by sawmills from their otherwise wasted offcuts and sent to both export sites and domestic pulpmills.

The relations between capital and labour in the woodchip mills, and in the forests supplying them, were virtually identical with those in the domestic pulpmills. Capital was organised in a particular form that differed from the US or European based transnational corporations of kinds depicted in descriptions of the ideal type. The central places in the woodchip trade were occupied by giant Japanese international trading companies that owned or arranged the shipping and negotiated agreements linking particular mills to particular suppliers. Prices were set and revised in bilateral negotiations which revolved around inflation in Australian costs, changes in the Japanese industry, and movements in the prices of softwood woodchips exported from North America.[14] The Japanese companies' negotiations, and their joint investments in shipping, were coordinated by an 'Overseas Pulp Material Committee', which functioned as a kind of cartel under the guidance of the Japanese Ministry of International Trade and Industry.[15] The agreements effectively dedicated Australian capital to the interests of the Japanese companies. Conversely, the Japanese expanded their pulp mills on the surety of raw material supplies from Australia, though their dependence was less as their ships could go elsewhere.

Production increased rapidly. By the end of the 1970's, woodchip exports accounted for about 60% of the wood cut in Tasmanian forests. Although logging required comparable labour, the small amount of processing in woodchip mills required only 193 people for each million tonnes of wood compared to over 7,000 when the same quantity was made into paper.[16]

The large-scale and rapid development of the woodchip industry produced both complementary benefits and contradictions between the different fractions of capital involved, and raised environmental issues that were the focus of action by numerous groups and individuals of the 'conservation movement'.

To the Australian pulp and paper companies, the uncommitted forests represented opportunities for eventual expansion, which they tried to secure either by opposing exports or by obtaining concessions and entering the trade. The Commonwealth government tried to protect the future of domestic manufacturing by only granting export permits until 1985-1991, and requiring studies of the feasibility of upgrading the woodchip mills to pulp or paper mills.[17] The Commonwealth also set a minimum price at which woodchips could be sold, which served to ensure that the trade would be sufficiently profitable to reproduce the cut-over forests.

We are not concerned in this work with the environmental issues and values involved but with the effects of the conservation movement on the course of development.[18] Firstly, the conservation movement succeeded in making the extent of forest cutting both a household word, 'woodchipping', and a subject of governmental inquiries. Secondly, public forestry authorities co-opted as much of the criticism as possible by encouraging the public to make submissions to the various inquiries, while leaving decision-making powers unaltered. Thirdly, logging practices were modified to ameliorate their environmental impact and appearance without any great increase in costs. Fourthly, several public relations and lobby groups were set up by the wood industries (closely supported by government forest services and forestry leaders) to counter the movement. Lastly, the

interests of some inquiries spilled over from environmental into economic and resource effects.

THE TRIABUNNA MILL - TPFH

The first Tasmanian woodchip mill was built in 1971 at Triabunna, on the east coast, by a group of mostly Tasmanian sawmillers. It was operated profitably by the group until 1979 when it was sold to APPM.

In 1966-67, the possibilities of woodchip exports were investigated by the Tasmanian Timber Association (TTA).[19] Prospects appeared hopeful, so the thirteen sawmillers in eastern and southern Tasmania combined to form Tasmanian Pulp and Forest Holdings Pty Ltd (TPFH) to further the investigations. The member companies included long-established Tasmanian merchant/sawmillers, the network of mainland merchants, and Tasmanian Board Mills, which had failed in its first attempt to enter the pulp and paper industry.[20] TPFH approached the Tasmanian government for a forest concession, hired US consultants to conduct a feasibility study, but then had to secure definite markets, resources, capital and governmental approval.

Market

The market was secured in 1968 by entering into a long-term contract with the Japanese trading company, Mitsui, which arranged to supply 610,000 tonnes of woodchips a year to a large Japanese company, Jujo Paper Manufacturing Company.

Commonwealth approval

The initial contract price of approximately $13.50 per green tonne (subject to increase with inflation) is said to have been a world record price. The Commonwealth issued a licence in 1968 permitting 711,242 tonnes a year to be exported for 18 years, subject to State legislation described below and hence to a study of the feasibility of building a pulp mill.[21]

The Eastern and Central Concession

The State government legislated to provide a concession over uncommitted Crown forests of eastern and central Tasmania.[22] Its main features were:

- Initial rights for 18 years. The company could be required to carry out feasibility studies for the building of a pulpmill, after which the Act envisaged that either a pulp mill would be built and the rights to the wood extended to 80 years, or woodchip exports could be continued on a basis to be negotiated.
- TPFH was required to spend at least $1 million building the woodchip mill and to cut certain minimum volumes - which it did.
- The provisions for joint planning and integrated logging followed those for APPM's Wesley Vale Act and APM's Port Huon Act (described in Chapter 7).[23]
- The Commission was responsible for regenerating and protecting the forests.
- The Act provided that any of the concession could be dedicated as State Forest on the recommendation of the Forestry Commission.

This last feature resolved conflicts within the state bureaucracy and between different fractions of capital, in favour of the wood industries. Objections from the Mines Department were overcome by declaring new State Forests as subject to the *Mining Act* and hence to shared control with mines officials - mining being allowed. Objections from the Lands Department could not be overcome. Grazing leases abounded and many had to be terminated in order to regenerate the forest.[24] Resolution of this issue in favour of the Forestry Commission illustrates in fact the rapidly growing importance of the wood industries relative to the traditionally dominant grazing industry.

The Act was not passed without objection from Australian manufacturers. Australian Newsprint Mills (ANM) - whose concession abutted TPFH's - complained that it wanted part of TPFH's area for its own expansion. The government gave the complaint short shrift, partly because ANM's case was weak and partly because it was keen to

encourage a large new venture, especially one which appeared to be particularly Tasmanian.[25] This impression was reinforced by the selection of members of long-established Tasmanian sawmilling firms as the first directors and subsequent chairmen of TPFH.[26] The capital required was greater than local sawmillers could assemble, however, and the impression of Tasmanian ownership could only be realised in part.

Capital

The problems of mobilising sufficient capital from the relatively small Tasmanian family sawmilling companies were aggravated by rapid inflation during construction, engineering problems, and the need for funds to build logging roads and to operate the mill. In 1968, the TPFH group estimated the capital cost would be $3.4 million, of which they expected to raise half internally and to borrow half on the Australian market.[27] By the time the mill was opened in 1971, $5.4 million had been spent, and in 1973 a reconstruction of the ship loading wharf was necessary. By 1975 the total assets employed amounted to $10 million.[28]

To raise the additional capital, TPFH was reconstituted as a public company in 1969. Part of the capital was found by the sawmilling companies, particularly by the two largest, Kilndried Timber Industries which lifted its shareholding to 25%, and IXL Timbers, a subsidiary of Henry Jones. The former (as discussed in Chapters 6 and 7) was mostly owned by the network of mainland timber merchants (40%) and a Tasmanian shipping company, while the latter, although originally Tasmanian, had become an investment for mainland institutional capital.[29] The insurance company, AMP, provided $1.5 million. Two of the original Tasmanian sawmilling companies later withdrew - the shares held by ones were widely dispersed, while the shares held by another were mostly bought by Henry Jones. Identifiably Tasmanian interests appear to have held about 35-40% of the equity capital. Capital was also raised from loans of some $4 million, so that the identifiably Tasmanian component in the overall capital structure was about 21-24%.[30] Hence the appearance of TPFH as a Tasmanian venture was considerably less than the reality.

The government also provided $1.8 million in port facilities, access roading, water and power supplies at the site, and built 20 houses at Triabunna. Nearly all these costs had to be repaid by TPFH over 3-7 year periods, and can be regarded more as temporary loans than state investments.

Operation

After initial delays and a loss in 1971, production increased rapidly and the company proved very profitable, earning an average of $0.9 million a year (equivalent to 17.8% on share capital) over the 1972-78 period. However these profits were nearly all distributed (dividends averaged 16.5%) rather than accumulated within the firm to upgrade the mill to make pulp.[31]

The integration of pulpwood with sawmill logging was achieved by negotiation, without the Forestry Commission having to exercise its directive powers. As with the Port Huon concession, the planning was conducted by a committee of company and Commission officers, which in theory excluded sawmillers. In practice the committee invited the TTA to represent sawmillers' interests, but as TPFH provided sawlogs to 26 different sawmills it was virtually impossible for a single representative to enter the planning process in the detail that individual millers needed.[32] Although sawmillers were originators and shareholders in TPFH they do not appear to have received any additional complementary benefits from integrated operations. Indeed even the biggest individual shareholder reported continual difficulties in obtaining regular deliveries of sawlogs from TPFH as the weekly operational imperatives of the far larger plant took precedence.[33]

The Forestry Commission protected and regenerated the forest. On the basis of costs up to 1973/74 and the then current royalty for pulpwood of $0.79 per tonne, a Commission report forecast likely costs and returns and found '... that revenues...are insufficient to meet all the costs of the project ...'[34] Although revenues covered direct costs of protection and regeneration, they did not cover the costs of managing the project, nor did they provide any net return to

the state. Both royalty rates and costs increased during the remainder of the 1970's, but it is unlikely that the general position of company profits and state losses would have altered appreciably.

TPFH also cut wood on freehold properties, particularly in the midlands and central districts, though the major user of private wood was not TPFH but a company which depended on it entirely - Northern Woodchips.

THE SMALLER LONG REACH MILL - NORTHERN WOODCHIPS

The second and third of the Tasmanian woodchip mills were built side by side at Long Reach on the Tamar estuary near Georgetown - the smaller by Northern Woodchips Pty Ltd, the larger (described later) by APPM.

The proposal for the Northern Woodchips mill, like that for the TPFH mill, originated as an attempt by sawmilling companies operating in Tasmania to enter into the first stage of the pulp and paper industry. Following initial investigations by the TTA, sawmillers in the north and north-west combined to form Tasmanian Woodchips Pty Ltd. The group included the Kauri Timber Company and Alstergren interests, but was smaller and weaker than the TPFH group.[35]

Tasmanian Woodchips

Tasmanian Woodchips asked the government to allow them to log APPM's unused Wesley Vale concession for 10 years, or at least until APPM built their second pulpmill and needed it. However APPM were busy developing their own proposal and could hardly be dislodged.[36] Uncommitted Crown forests in the North-West district were considered but rejected as the eucalypt resource there was too small.

Over one-third of Tasmania's forests of commercial quality were on privately owned land and these represented an alternative to the committed Crown resources. Tasmanian Woodchips obtained the rights to cut timber on many properties and counted on the chips that could

be produced from waste in their members' sawmills - in all they believed they had sufficient resources. They negotiated a contract to supply 305,000-710,000 tonnes year to Japan at a price of approximately $11 per tonne, ie. significantly lower than the price of $13.50 obtained by TPFH. The Commonwealth refused an export licence on the grounds that the price was too low.[37]

Savoy Corporation

Another proposal to utilise the private forests was developed by Plantation Management Pty Ltd, one of the many subsidiary and associated companies of the Savoy Corporation Ltd which managed hotels and speculated in real estate development.[38] The group's property ventures were highly geared, with debts and loans exceeding the group's equity, and little capital was left for investment.

Northern Woodchips

In 1970 the two groups combined to form Northern Woodchips Pty Ltd, in which they took equal shares.[39] The Commonwealth's insistence on the minimum price was effective, the Japanese renegotiated at a higher price, and the Commonwealth granted a permit allowing 9.1 million tonnes to be exported over a 15 year period.[40] Northern Woodchips became a public company and construction commenced.

No sooner had construction started than the Savoy Corporation collapsed, leaving Northern Woodchips without the means either to pay for work half done nor to complete it; construction ceased.[41] The sawmillers, realising their proposal was being dragged down with the collapse of Savoy, set up another group, Tasmanian Pulpwood Suppliers Cooperative Ltd, to acquire timber rights from landowners and possibly develop a fresh proposal.[42] They effectively withdrew from Northern Woodchips but failed to establish a definite proposal.

H.C. Sleigh

Northern Woodchips was saved from bankruptcy in 1971 and refinanced by an oil company, H.C. Sleigh Ltd, and the Commonwealth government. H.C. Sleigh, which took a 32% equity, was a joint US-Australian company in which the US Caltex Petroleum Corporation held the largest interest (36%) and a variety of Australian investors held the balance.[43] The Commonwealth's Australian Industry Development Corporation took a 20% equity, and the engineering consultants and contractors received shares in part payment for their work. H.C. Sleigh took responsibility for constructing and managing the mill. The sales contract was renegotiated with the trading firm, Jamamoto Sangyo, for the Taiyo Paper and Pulp Co. The price was reported to be slightly over the minimum set by the Commonwealth and export approval was obtained, though a condition was added requiring the company to reforest 2,000 hectares a year after 5 years operation.[44] It was also required to study the feasibility of building a pulpmill and, if possible, have one operating by 1986.

Further capital was required to meet the inflating costs of construction (which was completed in 1972), to repair a major breakdown in 1973, and to provide log yards, loading equipment, satellite chipping facilities and operating capital. The mill cost over $7 million by 1972 and further items brought the total cost to $8.5 million by 1979. H.C. Sleigh provided this, and by 1974 held a majority interest (50.7%). By 1977, H.C. Sleigh had exercised an option over the government's shares, had bought out the remaining shareholders, and incorporated Northern Woodchips as a division within the corporation.[45] Neither sawmillers nor Tasmanians, other than as incidental shareholders in H.C. Sleigh, retained any interest.

Operation

The chipmill was constructed very lightly so that breakdowns were common at first. It only started to be profitable in 1974/75, but for the next three years earnt an average net profit of $1.2 million a year, representing 40% on the share capital.[46]

Without a concession over Crown forests, Northern Woodchips had to range far and wide buying wood from private properties throughout northern and central Tasmania, often in competition with TPFH and APPM. APPM blocked Northern Woodchips from buying most of the waste from sawmills by claiming rights under their Acts to waste from any logs cut within their concessions.[47]

Northern Woodchips improved their mill, overcame the competition for resources, and increased their output to the maximum of their licence, 710,000 tonnes a year, by 1979. In 1980, they obtained approval to increase their exports by 103,000 tonnes a year to Japan and 90,000 tonnes a year to South Korea.[48]

THE LARGER LONG REACH MILL - APPM

Associated Pulp and Paper Mills Ltd (APPM) were short of neither capital nor wood in establishing the larger of the two woodchip export mills at Long Reach. APPM had obtained the Wesley Vale concession in 1961 and built a paper mill there in 1970, but had deferred building a large pulp mill. The woodchip trade presented an opportunity for immediate profit and ensured that they could hold the concession against others or until such time as they might need it for domestic pulp production.

The capital was readily available. During the 1960's, APPM had made good profits and saved $10 million within the firm. A further $5 million was raised in 1968 from existing shareholders of whom the largest were the mining companies of the Collins House group, and $6 million was obtained by a debenture issue.[49]

APPM had to obtain the government's approval to export wood from a concession that had been granted for domestic production. In this it was opposed by Tasmanian Woodchips, who competed for the resource, and the whole matter was questioned in the House of Assembly. APPM stressed that they only intended to export temporarily and that they would build a pulp mill at Wesley Vale within 10 years (ie. by

1978). Even though legal views conflicted, the government authorised APPM's right to export.[50] Tasmanian Woodchips' requests were simply refused.

APPM, with the advantage of experience, built a very solidly engineered plant designed to last.[51] It started ahead of schedule in 1972, and operated most efficiently. The mill cost $8 million and had a capacity to produce 1 million tonnes a year. An additional $1 million was spent on rail facilities.

Sales contracts were negotiated with two Japanese trading companies, Mitsubishi and Sumitomo, to supply two paper companies, Mitsubishi Paper Mills and Sanyo-Kokusaku Pulp Co. The first contract, for 610,000 tonnes a year, to be based on 508,000 tonnes from the concession and the balance from private property and sawmill waste, was approved by the Commonwealth for 11 years, 1972-1983. A second contract for 300,000 tonnes with the possibility of additional quantities, was approved for 5 years, 1973-1978. This was based on a short-term permit sale by the Forestry Commission of up to 255,000 tonnes a year from the uncommitted forests in the north-west.[52]

Logging the concession

Logging pulpwood on a large scale from the Wesley Vale concession required the resolution of the conflicts and the realisation of complementary benefits with sawmilling in more intricate detail than in the other concessions - partly because sawmills were more numerous, and partly because the shortage of sawlogs had become so starkly apparent in the 1970's.

The forests of the concession had been cut for well over a century and were supplying hardwood logs to 56, mostly small, sawmills by the time APPM started cutting in 1972. Logging was carried out by numerous small contractors and subcontractors in 67 different areas held under licences or Exclusive Forest Permits. The forests were cut selectively, taking only the best trees for sawlogs, but, as many of the stands were being cut for the second or third time, the average yield and quality of logs were gradually

declining.[53] The area rights granted to APPM by the 1961 Act thus overlay well established area rights of numerous sawmills. In this region, the sawmills had expanded their production during the boom of the 1950's and 1960's to about twice the level that the forest could sustain in the long-term. Whereas the Forestry Commission had failed to control cutting on public forests in that period, the gravity of the resource depletion became inescapable in the 1970's. In 1977, a 30% reduction in log quotas was ordered, followed by a further 30% in 1980 and the expectation of further cuts in 1983 and 1986. Reductions in quotas in other parts of the state have also been made.

Both the Forestry Commission and APPM advocated integrated logging by stressing the complementary benefits of higher productivity and better roads.[54] However, the realities of continuing conflicts over prices and the difficulties of scheduling deliveries and other problems - summed up as 'loss of control of the bush' - outweighed any advantages for the many sawmillers who preferred to continue to log their own permit areas. Such operations only produced a little pulpwood from the heads of trees felled for sawlogs.

Irrespective of sawmillers' preferences, the quantity of wood required by the chipmill was so large - 3-4 times that used by all the sawmills - that widespread clear falling, large operations and substantial roading were necessary. Moreover as clear felling ensured that every possible sawlog was felled, it almost certainly increased the overall supply of sawlogs, and averted even more drastic reductions than occurred. Price differentials between sawlogs and pulpwood, and close supervision, ensured that the products were segregated successfully.[55] The transition to fully integrated logging was hastened as the Commission declined to renew Exclusive Forest Permits to sawmillers as they expired, and only sold sawlogs on 2 year sales contracts, which guaranteed quantities but not areas. By 1977, only 10% of the pulpwood cut on the concession came from partially integrated operations, whereas 60% came from fully integrated operations and 30% from clearing lands for plantations and salvage operations.

The operations were planned in detail. A formal Working Plan, although not mandatory under the 1961 Act, was prepared on a provisional basis in the early 1970's and, as in the TPFH and Port Huon concessions, a *Five Year Plan of Operations* was prepared detailing responsibilities and scheduling operations.[56] Operations were planned and monitored in close detail by a whole series of documents and meetings - Forest Block Plans, Coupe Logging Plans, Cutting Approval Advices, Environmental Impact Statements, Three Monthly Review Meetings and Operational Field Meetings. Further plans were prepared within APPM to schedule their deliveries.

The Forestry Commission and APPM worked closely together. At the top, the Planning Committee of two senior officers from each of the two organisations considered how the 5 year Plan of Operations should be prepared. Logging schedules were discussed in meetings between APPM representatives and Commission divisional staff and details prepared and revised by specialist planning officers in the two organisations. APPM staff carried out much of the daily supervision of logging operations. By contrast the sawmillers took little part. Initially they were excluded from the Planning Committee - although one representative from the TTA was subsequently invited to join, they did not have a planner to join the specialist discussions, and did not contribute reports to the reviews of the Plan of Operations. In the forest, individual sawmillers were not readily available for or attracted to collective meetings, and they relied on their contractors to get their logs and the Commission staff to look after their interests.[57]

Generally it was the advent of the woodchip mill, the fluctuations in its wood demands, the progress of APPM's road construction programme, the depletion of the sawlog resource, and the transition from sawmill logging on exclusively held permit areas to integrated operations and contract sales, that set the pace of change. Sawmillers had few options but to follow.

EXPLOITING PRIVATE FORESTS

Ever since white settlement, the rate at which Crown forests had been granted, sold and selected had far exceeded the rate at which they had been cleared for agriculture or grazing. By the 1970's, one million hectares (or 36%) of Tasmania's forests were privately owned, of which about 90% were within the supply zones of the woodchip export mills. Private forests had always supplied a considerable proportion of the timber cut, and all three of the woodchip mills drew on them - Northern Woodchips almost entirely - as did the three existing pulpmills (though their usage was minor by comparison). In all, the private forests provided 42% of the pulpwood used in Tasmania during the 1970's, with the balance coming from Crown forests (51%), and waste from sawmills (7%).[58]

The private forests were a gradually depleting resource, partly because some land was cleared after cutting, but often because repeated fires and browsing destroyed natural regeneration and left only scrub or rough grazing. This degradation had been deplored for a century, but whereas sawlog cutting had been small-scale, selective, diffused and ignored, many of the huge areas clear-cut for woodchips thrust scenes of apparent devastation before the public. Clearly many were not being regenerated to provide timber crops for Tasmanians' industrial future.

The sudden market for previously useless timber was very attractive to many landowners. It was therefore a buyer's market and one in which the ruling rates had been set at a very low level by the state as part of its policy of industrial encouragement. Some of the rates paid were little more than half those that the state obtained.[59] Forest owners combined to improve their market strength, and even developed an (unsuccessful) export proposal, but although one organisation contained 359 members it was not able to force the price up.[60] Landowners considered that a rate of about $2 per tonne would be required to make it worthwhile to regenerate the forests - compared to the average rate of about $0.50 they were receiving.[61] By 1975, it became clear that only one-quarter of the

cut-over areas would yield a second crop, and that if the trends continued, the long-term yield of pulpwood from private forests would halve, and the overall production of pulpwood in Tasmania would drop by 20%.[62]

The rapid increase in cutting for woodchip exports also raised protests from the environmental movement, which fuelled a public controversy - centred on the issues of economics, resources and conservation practices - that raged through newspaper columns, pamphlets, questions in Parliament and several enquiries. Some resolution was sought, by both the state and the pulp and paper companies, through legislation, bureaucratic reorganisation, economic incentives and sanctions. Notably, reforms relied on education, persuasion and subsidies, rather than the market mechanism of increasing the price paid for pulpwood until investment occurred.

Everett Report

An initial inquiry into the use and regeneration of the state's forests was made by a Select Committee of the Legislative Council, in 1970-72, before all the consequences of woodchip exports were realised.[63] The Committee was concerned at the uneconomic level of pulpwood royalties, and what might happen to private forests. These fears were reinforced, in 1975, by the publication of an extended critique of woodchipping and the Committee's report.[64] When the trends to declining yield became apparent in 1976 a full-time Board of Inquiry, led by Mr. (later Justice) Everett, was appointed to look at the private forests.[65] The main recommendations of Everett's report were to:

- provide financial incentives to private forest owners from public funds;
- raise royalty rates for wood from public lands high enough to cover the costs of growing wood and provide a profit to the state or investor;
- regulate logging and other forest operations to ensure regeneration and minimise environmental damage;

- regulate the quantity of pulpwood cut from private forests by requiring woodchip and pulp companies to hold a licence from the state which would define a maximum annual quota; and
- create a Private Forestry Division within the Forestry Commission to deliver the incentives, provide technical extension services, and police the regulations.

The government appeared to accept most of the recommendations in principle but only (to 1982) took those measures which would not add to the costs of the major companies. Thus the Private Forestry Division was set up promptly and staffed with an Assistant Commissioner and several extension foresters.[66] Incentive schemes were devised and loans and subsidies paid to forest growers though, given the financial stringencies of the late 1970's, on a modest scale (only amounting to $37,000 out of the Private Forestry Division's budget of $346,000 in 1979/80).[67] Proposals for forest practices regulations which would be binding on owners, the Commission, and the industrial companies, and which might increase logging costs, were put forward later but have not yet (1982) been decided. The recommendation to review royalty rates and road charges was initially accepted, and a Board of Inquiry was appointed. The very existence of an inquiry was so strongly opposed by at least one of the major pulp companies that the government cancelled it.[68] The recommendation requiring the companies to hold a licence to cut private forests would have restricted both landowners and companies and was not implemented.[69]

Industry schemes

Schemes to encourage landowners to grow future crops were also developed by two of the woodchip exporters.

APPM, which had been cutting private forests for its Burnie mill for 30 years, launched its 'Associated Tree Farmers' scheme in 1975. Under this scheme, APPM prepared a management plan for a private forest about to be logged, offered technical advice, and undertook to regenerate it satisfactorily after logging on the landowner's agreement to offer the second crop for sale to the

company. It also provided a slightly higher royalty to owners intending to regenerate their forests.[70]

TPFH provided no assistance or incentive to landowners until APPM took them over in 1979 and applied their scheme.

Northern Woodchips introduced a scheme in 1979 in which they increased the royalty by $1 per tonne to landowners regnerating their forests under an agreed plan. They were also prepared to pay half the costs of regenerating previously cut-over land in return for a first refusal option on the next crop.[71] Northern Woodchips' scheme relied on landowners to do the work and hence gave them an opportunity to increase their incomes.

PULP AND PAPER MAKING

In contrast to the boom of woodchip exports to the Japanese mills, pulp and paper making within Tasmania made far less progress - though there were important differences between the three manufacturers. Australian Newsprint Mills (ANM) expanded to replace imports with cheaper local paper, while APPM and Australian Paper Manufacturers (APM) restrained their expansion in the paper industry but diversified their investments. We will consider each.

Pulp exports from Port Huon - APM

APM expanded and diversified its manufacturing facilities on the mainland throughout the 1970's, but not at Port Huon.[72] APM did investigate exporting pulp to Japan from Port Huon but could not find a market for the comparatively small quantities involved.[73] Generally, the Port Huon mill continued to feed pulp to the company's mainland paper mills fairly steadily, though at a rate about 18% less than in the peak year of 1973/74.[74] APM needed more regrowth to raise the quality of its paper in a tighter market to that of imported and competing domestic papers. The Working Plan was formally revised in 1974 to reflect new information, a number of

changes in the forest, and balance sawmillers' needs to have oldgrowth stands cut against APM's needs for more high quality wood from regrowth stands.[75]

Newsprint production at Boyer - ANM

The Australian consumption of newsprint increased steadily in the early 1970's and then held fairly constant in spite of the recession. Production at ANM's Boyer mill was increased fairly readily by bringing the paper machine installed in 1969 up to full capacity, and modifying the older No.2 machine.[76] ANM remained the sole domestic producer and held a little over 40% of the market.

The installation of computer control systems on the paper machines in 1972/73, and improvements in pulp preparation, enabled the thickness of the paper to be reduced by 6% and the sales price per tonne to be increased proportionately. However this was far from sufficient to overcome the inflation of costs. The long-term contracts (described in Chapter 7) proved an embarrassment for, although most of the shareholder-customers were prepared to renegotiate prices, News Ltd, which took one-quarter of the production, was not; the contracts held and profits slumped.[77]

ANM continued to road, log and manage the Florentine concession and finally, in 1979, prepared a formal Working Plan (based on a sophisticated computer model) 38 years after the company had started logging! As ANM converted nearly all the wood to pulp and was responsible for regeneration, joint planning was unnecessary and a submission to the Commission a formality.[78]

At the end of the 1970's, ANM commenced a further expansion which, like earlier steps, involved re-ordering the domestic market, re-arranging international supply, re-organising the company's capital and negotiating with governments. The expansion aimed at replacing imports of both pulp and newsprint. The step started in 1976 when ANM ceased to supply News Ltd and could negotiate new sales contracts with its shareholder customers at rates which immediately restored profitability. In 1978, the company built an additional

plant at Boyer to pulp softwood by the thermo-mechanical process. Up to 78,000 cubic metres a year of pine pulpwood was obtained by thinning the Forestry Commission's plantations in the north-east. The resultant long-fibred pulp partially replaced the expensive kraft pulp being imported from New Zealand.[79]

By the 1970's, the two major shareholders, the Herald and Weekly Times and John Fairfax companies, had become wealthy enough to finance an expansion on their own. In 1978 the interlocking shareholding with the New Zealand producer, Tasman, was reversed, and in 1979 the minor newspaper-shareholders were bought out and the total capital split equally between the major two.[80] ANM looked for additional forest resources and built a complete new pulp and paper mill, at Albury in New South Wales, which doubled its productive capacity and gave it the potential for a virtual monopoly.[81]

Fine paper at Burnie and Wesley Vale - APPM

APPM started the 1970's by opening its Wesley Vale paper mill and amalgamating with Wiggins Teape, taking over the latter's Shoalhaven mill in New South Wales (described in Chapter 7). The expansion of production was far from even and the company experienced a profit slump in 1972/73, due to escalating costs, followed by a drastic 35% drop in paper sales between 1973/74 and 1975/76 and a further slump in profits.[82]

The company countered these situations by asking the Commonwealth government for more protection, reducing the workforce, and diversifying its investments.

A series of requests were made through the 1970's asking for temporary duties, embargoes on imports, and higher tariffs. Many of these were refused and overall, the Commonwealth bodies involved do not appear to have been particularly sympathetic to APPM.[83] The Commonwealth did offer to direct government orders for paper to APPM and loaned the company $650,000 to enable it to hold higher stocks and maintain employment through the 1975 slump.[84] However estimates of APPM's production and employment in Tasmania indicate that while

output of the main products increased, employment decreased (Table 8.1).

Table 8.1

APPM: production and employment, 1970/71, 1978/79 [85]

Statistic	1970/71 APPM Total	1970/71 Estimated amount in Tasmania	1978/79 APPM Total	1978/79 Estimated amount in Tasmania
Total employment	5,856	4,450 *	4,933	3,500 *
Paper sales (tonne 000's)	167	127 *	208	168 *
Sawn timber sales (m^3 000's)	31	31	54	34 *
Woodchip sales (tonne 000's)	Nil	Nil	900*	850 *

* Estimated

Like ANM, APPM started to make pulp from pine wood in order to replace expensive imports of long-fibre pulp from New Zealand. This was done by modifying and extending facilities in the Burnie mill in 1979 at an overall cost of about $30 million.[86] The wood came from thinnings made in both the Forestry Commission's and APPM's own pine plantations. The company diversified into pine sawmilling by buying a pine sawmill at Wynyard in 1977, and made a number of other small investments.[87]

SAWMILLING

The more or less steady increase in the production of sawn timber continued from the Second World War until 1972/73, when more timber was sawn in Tasmania than ever before. The economic recession and consequent decline in construction, combined with the depletion of resources, forced the production of hardwood timber to be reduced each year until by 1979/80 only 71% of the volume of the peak year was being cut. The decline in hardwood sawmilling was partly offset by an increase in the cutting of softwoods from pine plantations (Table 8.2).

Table 8.2

Average annual production of sawn timber, 1970-1980[88]

Period	Production (m^3 000's per year)		
	Hardwood	Softwood	Total
1969/70 - 1973/74	399.6	13.0	412.6
1974/75 - 1978/79	331.5	30.7	362.2
1979/80	287.6	67.6	355.2

Not only did production decrease during the second half of the 1970's, but costs increased, marketing became more difficult, and further reductions in the supplies of sawlogs from Crown Land were forecast. These factors applied more severely to smaller, older and less efficient mills. Additionally only about 20 of the larger mills were big enough to warrant installing chippers to process their waste for sale to the woodchip or pulp companies.[89] The resultant trend to concentrate production in the larger mills can be seen in Table 8.3. Although the number of mills classified as 'small' increased as production fell, they cut less than 5% of the total production and employed few workers.

Table 8.3

Operating sawmills classified by log input[90]

Class of mill and log input (m^3 000's per year)		1972	1976	1980
Very large	Over 60	-	1	3
Large	15 -60	17	15	9
Medium	3 - 15	89	75	25
Small	Under 3	116	110	145
Total		222	201	182

The drop in production and the concentration into larger more efficient mills reduced the number of workers employed significantly (Table 8.4).

Table 8.4

Sawmilling employment, 1975/76, 1978/79[91]

(excluding mills employing less than 4 workers)

	1975/76	1978/79
Number of sawmills	129	94
Number of workers	2,582	1,973
Average per mill	20	21
Annual volume produced (m^3 000's)	360.0	308.3
Average per mill (m^3 000's)	28.0	32.8
Average per worker (m^3)	13.9	15.6

The concentration of production was achieved by building very large mills, closing others, and concentrating ownership into fewer hands - only some of which were Tasmanian. We will consider three major cases, each involving a different fraction of capital: the Kauri Timber Company, Tasmanian Softwoods, and in the next section, APPM.

Kauri Timber Company - transnational corporate capital

The Kauri Timber Company's (KTC) accumulation of sawlog resources in north-west Tasmania and its recruitment of foreign capital was described in Chapter 7. In 1972, the company built the largest sawmill in Tasmania - the Chatlee mill near Smithton - to replace its seven old mills, which had an allocation of 68,000 cubic metres of sawlogs amounting to about 10% of the total hardwood logs from Crown forests.[92] To build this mill, KTC had welcomed US capital and expertise from the Boise Cascade Corporation, but had retained control. However the technical advice was unsuited to Tasmanian timber and parts of the Chatlee mill had to be reconstructed.[93] More importantly, Boise Cascade found itself in financial trouble in 1973 and not only sold its interest to the Danish transnational corporation, East Asiatic, but exercised an option to take up additional shares in the process. KTC ended up as

East Asiatic dismantled the over-extended network of subsidiaries built up by KTC throughout Australia and sold its sawmills at Devonport and Deloraine to the Tasmanian merchants, J. & T. Gunn. Thus by the mid-1970's, the two largest sawmilling companies in Tasmania - KTC and Tasmanian Board Mills (Chapter 7) - were both foreign owned.

Tasmanian Softwoods - Tasmanian merchant capital[95]

In contrast to the depletion of sawlogs from the natural hardwood forests, the quantity of softwood sawlogs available from the Forestry Commission's pine plantations increased during the 1970's. In 1973, the Commission invited tenders for 60,000 cubic metres a year from the Branxholme-Scottsdale area, sufficient for a mill almost as large as KTC's Chatlee mill.

To build such a mill required Tasmanian sawmillers to combine their capital. The successful tenderer, Tasmanian Softwoods Pty Ltd, was a consortium of Risby Bros Pty Ltd (40%), Clements Marshall Pty Ltd (40%), and Timbersales Ltd (20%). Both Risby Bros and Clements Marshall were Tasmanian concerns. The former (described in Chapters 4 & 7) were timber merchants and sawmillers in Hobart who were prominent in starting TPFH. The latter were produce and timber merchants who owned a hardwood sawmill at Devonport. Timbersales Ltd was a Melbourne timber agent, owned jointly by two old Australian merchant companies involved in timber.[96]

The consortium built a sawmill, complete with drying kilns and a planing mill, at Tonganah on the outskirts of Scottsdale, in 1976. The cost of the mill escalated during construction from $2.5 to $3.5 million; it burnt down shortly after opening and had to be reconstructed; it had many difficulties in starting up, and faced a depressed market when it did so - all of which put Tasmanian Softwoods into a precarious financial position.

The company's financial difficulties were reflected back on to the state. In making its original tender, Tasmanian Softwoods had offered to pay a royalty of $13.50 per cubic metre, which was high by

Tasmanian standards and was indexed to inflation. When the mill started the rate had inflated to about $17.60, which the company could not pay. It appealed to the government, which reduced its rate to an amount considerably less than two local sawmills (G. & K. French and Branxholme Sawmills) were paying for poorer logs. They complained that they were at a competitive disadvantage, but although the Commission initiated an inquiry, a concessionary rate to the larger mill was maintained until 1980.[97]

APPM's TAKE-OVERS

During the 1970's, APPM became by far the largest wood using corporation in Tasmania - entering the woodchip export trade, increasing production of pulp and paper, and above all taking over TPFH's woodchip mill, several sawmills and a plymill.

By the late 1970's, TPFH had become an attractive target for takeover offers as it was profitable and had an extensive concession with resources to support a pulp mill. Although TPFH announced in 1977 that it would undertake a feasibility study for building a mill it was clear that the company could never raise the $250 million required.[98] Both the other two exporters, Northern Woodchips and APPM, competed to take it over.

To the oil company, H.C. Sleigh, (the parent company of Northern Woodchips), a take-over of TPFH offered secure resources for woodchip exports and the chance to diversify into manufacturing. A takeover of TPFH by Sleigh posed a threat to APPM, for the former had the capital to build a mill which might have competed with APPM for other resources, the Japanese market, or perhaps even the Australian one. To APPM, a take-over of TPFH offered an opportunity to build up resources for a far larger expansion than possible from the Wesley Vale concession alone.

The battle to take over TPFH was fought vigorously, with a series of offers and counter offers to the shareholders. A key

shareholding was the 25% owned by Kilndried Timber Industries.[99] To obtain this, APPM first bought out the entire Tasmanian interests of the network of mainland timber merchants, including the plymill, several sawmills, and their majority holding in Kilndried. By increasing their offers for TPFH shares to a value of $31 million, APPM were able to top Sleigh's last public bid of $25 million.[100]

Consequential moves

APPM's take-over of TPFH and Kilndried was followed by further takeovers by other companies. The Tasmanian merchant/sawmillers directed some of their windfall gains from the TPFH sale to buying up smaller sawmills for their log quotas. Risby Bros, for example, were able to almost triple their production.[101]

Having lost the takeover battle for TPFH, H.C. Sleigh had to find other ways of strengthening its resource base and Tasmanian 'presence' in order to support the sort of case it would need to justify a continuation of its woodchip export permit after 1987. Sleigh bought the ailing Tasmanian Board Mills from its British owners which gave Sleigh forest land, rights to sawlogs from state forests, and the potential to secure some complementary benefits from its woodchip operations.[102]

INDUSTRIAL STRUCTURE, 1980

The result of the changes we have considered was to leave the pulp and paper companies, operating principally in the monopoly sub-mode, with the largest proportion of production and the dominant position.

Table 8.5

Quantity of pulpwood produced, 1979/80 [103]

Company	Quantity (tonne 000's)			Proportion (%)
	For Tasmanian pulp production	For woodchip exports	Total	
APPM Group (incl. TPFH)	736	1,797	2,533	61
Northern Woodchips (Sleigh)	-	1,005	1,005	24
ANM	469	-	469	11
APM	151	-	151	4
Total	1,356	2,802	4,158	100

The industrial structure in 1980 is clear from the published statistics for pulpwood (Table 8.5) and the estimates for sawmilling (Table 8.6), though the latter must be regarded with reservation as they are based on incomplete data and several subjective estimates.

Table 8.6

Allocation of Crown sawlogs and production of sawn timber: Estimated proportion of State total, *circa* 1980 [104]

Company	Allocation of sawlogs from Crown forests (%)	Production of sawn timber (%)
APPM group	18	26
Risby Bros.	14	8
Kauri Timber Company (East Asiatic)	13	13
J. & T. Gunn	11	n.a.
Tasmanian Board Mills (Sleigh)	10	6
Tasmanian Softwoods	8	8
Forest Developments (Neville Smith)	4	n.a.
B & G Clennett	3	2
W & A McKay	3	2
G. & K. French	3	n.a.
Various other	13	n.a.
Total	100 %	100 %

The relationships between the pulp and paper companies and sawmilling are recapitulated briefly in Table 8.7.

Table 8.7

Resources and relationships in the pulpwood concessions [105]

Company and concession	Area of Crown forest as % of State total	Relationship of pulp and paper companies with sawmilling
APPM, Burnie	9	Integrated within the firm - all but one sawmill owned by APPM
Wesley Vale	21	Integrated partly through state planning and partly within the firm as APPM organises most of the logging and owns several of the sawmills.
TPFH	25	As for Wesley Vale.
ANM Florentine	8	Resolved mostly within the firm as ANM conducts all the logging and pulps most of the sawlogs.
APM Port Huon	9	Integrated through state planning only.

We can now summarize the relative weights and linkages of the different structures of production, though with the reservation that actual firms can not all be expected to comply neatly with the ideal types - particularly those firms which enter more than one structure and are owned by more than one fraction of capital.

Global and monopoly sub-modes of production

Four firms, exporting woodchips and making pulp and paper, operate in these two sub-modes. Two (Sleigh and APPM) are partially owned by transnational corporations and partially bound to others by their woodchip trading agreements; two (APM and ANM) are owned by Australian capital; any Tasmanian shareholding is incidental. The

conflicts between the two sub-modes have emerged as competition for resources in the case of Sleigh, but have been resolved by integration within the firm in the case of APPM. Linkages between the two sub-modes may strengthen, as APM is trying to organise part of its production globally - in this case in combination with a New Zealand firm.[106]

The global and monopoly sub-modes are linked to the competitive sub-mode, within which timber is sawn, through both state planning and ownership. Together, APPM, Sleigh, and the Kauri Timber Company (owned by transnational capital) own some 40-45% of the sawmills.

Competitive sub-mode of production

About 50-55% of sawn timber is produced by firms operating only in the competitive structure. The most important are the five, mostly old established family companies of Tasmanian merchant-/sawmillers, who account for some 40% of production. Although dominated by the woodchip and pulp companies in many forest areas, the Tasmanian merchant/sawmillers are able to maintain a strong position, matching that of APPM, in a market that is still competitively organised. However, even acting in combination they have been unable to break into pulp or paper making.

Small business mode of production

The small business structure probably accounts for only about 5% of sawn timber production. The huge increase in logging for woodchip exports was mostly undertaken by contractors, and numerous owner/operators of trucks. These businesses are dependent on the global and monopoly structures they serve, but with limited capital - and frequently with debts to finance companies (characteristically penetrated by US transnational capital) - they are often unable to withstand trade fluctuations or inflating costs.[107]

THE STATE

The industrial changes of the 1970's were undertaken only with much greater activity by the state in its productive, reproductive and integrative functions.

Table 8.8

Abstract of the state's forestry accounts, 1968/69 to 1977/78 [108]

	5 year period ($ 000's) 1968/69 to 1972/73	5 year period ($ 000's) 1973/74 to 1977/78	Increase (real terms 1966/67 %)
Native Forest Operations Account			
Revenue	9,305	19,947	27
Expenditure on current operation	7,706	22,962	77
Interest on loan funds	4,216	8,588	21
Total costs	11,922	31,550	57
Profit (loss)	(2,618)	(11,603)	63
Fund Statement			
Funds received	21,627	61,525	69
Application of funds			
Development of native forest	4,000	8,914	32
" " plantations	11,115	29,840	59

The costs of the expanded operations - largely to serve the reproductive and integrative functions - increased much more than revenues from the productive function (Table 8.8; Appendix 1). In spite of some rumblings about the costs of roads, the expansion was made without opposition from the industry, due no doubt to the fact that the Commission obtained grants and loans, ultimately from taxpayers, to cover its increasing losses. That is, the costs of the long-term reproduction of capital were not imposed on the productive process. Tasmania, like other States, could not readily fund the big increase in plantation costs but secured $7 million on loan from the Commonwealth to do so. The Forestry Commission

forecast that their revenues and costs would remain fairly constant during the 1980's, and the public would have to continue to subsidise the reproduction of the resource by some $7-8 million a year.

DEVELOPMENT

We have described the changes that occurred to each of the Tasmanian wood industries during the 1970's and can now summarise the overall development.

The structure of the woodchip export trade contained most, but not all, the features that defined the emergent global sub-mode of production. It did show that manufacturing (of pulp and paper) was located in a lower-wage country (Japan) rather than in a higher-wage one (Australia), and capital was organised by giant transnational corporations. However this did not result in de-industrialisation, except in the sense of Tasmanian manufacturing opportunities foregone, nor in depressed wages. The global sub-mode flourished in Tasmania, as in many Third World countries, with encouragement and subsidy from the state. State encouragement was not unique - the precedent had been set firmly with the monopoly sub-mode.

The monopoly sub-mode was able to expand in the presence of the global sub-mode and conflicts between the two were integrated largely within a single firm. By contrast, the combination of expanded pulpwood production, declining sawlog resources, and a depressed economy led to a rapid concentration of sawmilling ownership and production. Parts of this competitive sub-mode - the firms owned by transnational and Tasmanian merchant/sawmillers - remained sturdily established, but much of the rest was either integrated within or subordinated to the monopoly and global structures.

The state acted repeatedly to encourage the expansion of production in the global and monopoly sub-modes and to integrate the conflicting and complementary demands of different structures. Notably it tended to further the interests of larger capital over

smaller, and hence of non-Tasmanians over Tasmanians. The earlier failure of the state to control the yield from the forests and regenerate the cut-over stands became starkly apparent when sawn timber production had to be curtailed because the productive capacity of the resource had been too greatly depleted. This result is quite contrary to the expectation that the state acts as the 'ideal collective capitalist' (as the capital logic theory of the state depicts), and requires more complex explanations that recognise competition and conflicts within and between different fractions of capital.

The state's actions were a continuation of the modernization policies of hydro-industrialisation and concession that had been applied since the beginning of the century. According to modernization theory the capitalist industrialisation that occurred should have led to rising employment and prosperity, yet in this period these did not occur, either generally or in the wood sector. In spite of investment in heavy industry, Tasmanian development became the 'Tasmanian problem' of regional decline and outmigration. In spite of a doubling in the production of wood from the forests and expanding paper production, employment in the wood industries declined. Sawn timber production also declined, and employment declined there at an even greater rate. Although wages and conditions remained reasonably stable for those employed, rising unemployment increased poverty not prosperity. Moreover, the expanded utilisation of the forest resource led not to increased public returns, but to the increased public expense of its reproduction.

Modernization policies, and the theories supporting them, were found to be failing.

Chapter 9

DEVELOPMENT IN THE CASE OF THE TASMANIAN WOOD INDUSTRIES

The general thesis of this work is that radical theories provide a consistent and efficient framework within which to analyse the development of the Tasmanian wood industries. A radical approach was taken because the modernization theories prevalent in analyses of this sector have been widely discounted in other domains, and because development policies based on them have been considered to fail on a world scale.

The history of the Tasmanian wood industries was narrated in the last seven chapters using three radical theories described in the first chapter. The task of this final chapter is to evaluate and substantiate the thesis. This will be done in three steps. Firstly, the case study will be searched to see how the three theories enabled us to detect the patterns and processes of development at work. Particular attention will be given to the manner in which forestry was constructed. Secondly, we will consider whether what was detected enables us to prophesy future development. Lastly, it will be shown that the analysis of development, past and future, made in this work is quite different from that derived from modernization theory, and hence that the policies derived from them will differ significantly.

THE WORLD-HISTORIC PERSPECTIVE

The resurgence in radical theories of development after the Second World War occurred largely to explain the problems of *underdevelopment*. Although there is much debate about the mechanisms and current trends at work, the main stages of the development of capitalism *as a world system* are now widely agreed. The work of theorists such as Frank and Wallerstein take the perspective that underdevelopment should be analysed *primarily* in terms of the

development of the capitalist world-system as whole. We must ask whether the development of the Tasmanian wood industries was determined *primarily* by factors operating at a world scale, and whether those theories used to explain underdevelopment have been relevant to the Tasmanian case?

Some major determinants of Tasmanian development clearly did operate on a world scale, and changes in international hegemony did affect the wood sector. The invasion of Britons, their destruction of the tribal society, and the production of timber in the prison-farm mode, was the first and most striking example - due to both Britain's struggle for world power and the inter-class conflicts of the transition to capitalism. At the start of the twentieth century, Britain's grab for a share of Africa and the maintenance of her supremacy at sea boosted Tasmanian timber production. During the 1920's and 1930's, Britain's defence of her previously hegemonic position led to Australian industrialisation and the advent of both kiln-drying and paper-making in Tasmania. The rise of US hegemony after the Second World War was mirrored by US investment in Tasmanian sawmilling, and the rise of the Japanese economy took dramatic effect in Tasmania's forests through the woodchip trade.

Of the international economic factors we saw that the rise of British woollen manufacturing provided Tasmania with a major export commodity whose production stimulated the economy and set the pattern of class relations within which timber production had to fit. After the 'Golden Age', some of the capital exported from Britain was directed to mining Tasmanian ores and even briefly to sawmilling. The booms and busts of world capitalism were felt in the Tasmanian timber industry; as in the Great Depression of the 1930's, the boom after the Second World War, or the recession of the 1970's. Yet some global events passed Tasmania by; most noticeably the long boom of sustained economic growth on the mainland and in the US during the 1860's and 1870's, which failed to reach the stagnant Tasmanian economy and its depressed timber industry.

Whilst Tasmanian development was stimulated, by some world-system and regional changes, it was also stimulated on two occasions by separations from the world economy. The brief separation from external food supply in the first six years of British settlement led to a change in the mode of producing the necessities of life. Although the separation during the First War did not lead to any development, that during the Second enabled Tasmania's paper mills to become established successfully, when otherwise they might not have done so.

Other major determinants of Tasmanian development operated at the Australian and Tasmanian levels on which the bulk of this study has been conducted. For example the gold rush of the 1850's on the mainland, and the mining boom on Tasmania's west coast in the 1880's, significantly altered class relations and stimulated two steps in the transition from manual to mechanised production of sawn timber. Most importantly, Tasmanian sawn timber and paper was produced primarily for the mainland and local markets (apart from supplying the boom market during Britain's rush for empire) so that it was the changes in these markets that largely set the pace of development. Most of the linkages with the international economy were therefore indirect. However the recent development of the woodchip industry, part of the global structure of production, has demonstrated that the level at which development is determined can change quickly.

We have seen repeatedly that the emergence of new features, taken to characterise a new stage of the capitalist world-system, only affected the Tasmanian industry indirectly or at a much later date. For example, the production of sawn timber in Tasmania was not mechanised completely until the 1880's - a century after the start of the British industrial revolution and two centuries after sawmills were common in North America. As a second example, we find the combination of capitals into monopolies at the end of the nineteenth century only entering Tasmania in the mining sector. Although mining stimulated the timber market and did set a precedent for state encouragement and concession, it was not until a half a century later that the monopoly structure (in the making of pulp and paper) entered the wood sector.

Whether the patterns of development operate primarily on a world-system, national or regional scale is not considered to be a real problem, as it is apparent from this case, as elsewhere, that *all* scales must be considered. The virtue of the world-historic perspective is the emphasis it gives to this holistic view.[1]

The bulk of radical development theory has been directed, as we have noted, to the problems of *underdevelopment*, which was not the experience, in our case, of the *development* of Australia as an industrial nation. Although part of Australian economic growth may be considered as *overdevelopment* attained at the expense of *underdevelopment* elsewhere, this was not the case in the Tasmanian wood industries which secured their materials, sold their products and accumulated their capital within Australia. In considering underdevelopment, one contemporary debate has analysed the persistence of pre-capitalist modes of production in many societies where they have coexisted with capitalism over long periods.[2] This debate seeks to explain the processes of development and underdevelopment by the interactions, or 'articulations', between the two modes. Hence the focus of analysis has been shifted from those stages characterising the world-system as a whole to processes of structural change *to* capitalism within particular societies. The elaboration of this debate by Gibson in the case of the structural change taking place *within* capitalism provided the second member of the theoretical frame supporting the above case study.

STRUCTURAL CHANGE *WITHIN* CAPITALISM

Gibson's elaboration of Marxist theory defined three variants of the capitalist mode of production - the competitive, monopoly and global sub-modes - according to the relationships between and within major social classes. These, together with the Aboriginal, prison-farm and small business modes, provided the ideal types to which we related the structures of production in Tasmania.

In this study twelve structures of production have been identified, to cover the different products, stages of manufacturing and types of capital employed, which were then located within Marx's ideal types or rather Gibson's elaboration of them (Table 10.1).

Table 9.1

Correspondence of ideal types of production with empirical structures

Ideal type of production	Empirical structure identified in the Tasmanian wood industries
Prison-farm mode	Sawing and Punishment stations
Petit-Bourgeois mode	Small businesses: 1. Small general forest sawmills 2. Small case mills 3. Logging and cartage contractors
Competitive sub-mode	1. Manual production of sawn, split or hewn timber for merchants. 2. Large sawmills 3. Medium-size general forest sawmills 4. Town sawmills 5. Kiln-drying plants and plymill
Monopoly sub-mode	1. Pulp and paper 2. Pulp only
Global sub-mode	Woodchip exports

Some of the differences between empirical examples of particular structures arose in obvious physical ways - as between different types of small business - and need be of no further concern. Other

differences arose because we considered development *within one region*. Hence we had to distinguish which stages of manufacturing were located within Tasmania, where the commodities were sold, and which locational fractions of capital were involved. For example, we examined the establishment of kiln-drying plants within Tasmania by the network of mainland timber merchants. From a Tasmanian perspective, this was a significant development to the industrial structure, though from an Australian one it would appear merely as a technical improvement and relocation. In considering the paper industry, there was an obvious and big difference in terms of Tasmanian industrialisation between mills that made paper, and those that made pulp or even exported the raw material as woodchips. Hence in our regional study we needed to distinguish structures in more detail than might be necessary at a national or international scale.

The importance of the location of markets depended on how much of the surplus value of production was realised within the region. For example, the depressed condition of the small and medium sized forest sawmills in Tasmania, prior to the Second World War, was largely determined by their subordination to the mainland timber merchants.

The importance of the locational base of capital rested on the influence it had on reinvestment decisions and, as we will consider later, on the relationship between particular capitals and states. The old-established merchant/sawmillers living in Tasmania did reinvest their accumulated profits within the island. This was also done by non-Tasmanian capitals such as APPM, or ANM until the 1970's, but the location of reinvestment has always been uncertain and we saw that ANM, after 30 years of reinvesting in Tasmania, built its next paper mill elsewhere.

The linkages between the different scales, sectors and structures of production have been examined throughout the study. We can now review them and consider: how far the development of some structures was inhibited or enhanced by their *articulation* with others, how far changes were simple *transitions* to a new structure,

and how far new developments occurred *independently* of existing structures.

First considering linkages between different spatial levels, we saw that the adoption of the prison-farm structure to cut timber in Tasmania was determined by the needs of the British ruling class during the rise of competitive capitalism there. The coercive labour process was inefficient in Van Diemen's Land but functioned to advance capitalism in Britain. Thus development in Van Diemen's Land was inhibited because of its articulation with the developing mode in the core. Much later, we detected the intricate linkages (through research facilities, market division and capital investment) in the international redivisions of production that conditioned the development of newsprint production in Tasmania.

Next, considering the linkages between the production of different commodities from the land, we found that both inhibiting and complementary relationships had occurred. Relations in the dominant sector of production - pastoral and agricultural production on large estates - set the class relationships within which the relatively minor sector of timber had to fit as best it could. Further, grazing and land settlement generally took precedence over timber in the allocation of land by the state right up to the woodchipping expansion of the 1970's. The relationships could also be complementary as in some early settlements where sawmillers' tramways provided settlers with access, and settlers' produce provided sawmiller/merchants with freight and trade.

There were numerous linkages between the different structures of producing timber; four instances will be reviewed. As the first instance, we saw how the convict system was articulated with the structure of splitting and sawing timber for trade. Initially the sawing and punishment stations produced timber for the infrastructure that served the rise of competitive capitalism, and the part-time labour of convicts was sometimes employed in ways which permitted some initial capital to be accumulated. As the timber trade expanded, the articulation became more complex. The labour force

working for the merchants under capitalist relations depended largely on the continued production of emancipists and ticket-of-leave men from the convict system, which itself depended on continual British recruitment. Hence the costs of reproducing the labour force were borne by other structures. Free immigrant labour arrived, the reserve army of unemployed labour grew, and the working class became bitterly divided between free and freed; that is between immigrant labour in family groups that bore the costs of its own reproduction, and the predominantly single itinerant convict labour force whose reproduction costs were born elsewhere.

As the second instance of a linkage between different structures of timber production, we found that the development of mechanised production was retarded by the persistence of manual production due to the low level of wages, itself originally partly the product of its articulation with the convict system. The articulation between the two structures went through three phases: from 1825-1850 the development of sawmilling was inhibited by manual production; in the 1860's and 1870's the two structures co-existed, with each serving to depress the other but providing only starvation wages for the manual workers; and from the 1880's manual production was virtually eliminated except for some specialised products such as hewn piles.

The third instance is taken from the linkage between the general forest sawmills cutting rough-sawn green timber and the timber merchants, mostly on the mainland, who stocked, seasoned, dressed and sold it. The relationship went through four phases: independent exchange, dependent exchange across Bass Strait, dependent exchange within Tasmania, and incorporation within the firm. In the 1850's and 1860's, the relationship between sawmillers and timber merchants in Tasmania and the many small merchants and customers on the mainland seems to have been based on quite unremarkable market exchanges.[3] About the 1880's, larger firms of timber merchants developed on the mainland to import foreign timbers. Disruptions during the First World War led some of them to extend their business to Australian timbers. By the 1920's and 1930's, the small and medium forest sawmills in Tasmania had fallen to a very dependent

position due to the merchants' control over quality grading, capital advances for stock, as well as their place in seasoning and dressing high quality commodities from the rough material they bought. When kiln-drying became feasible in the 1930's, the merchants perpetuated this articulation by setting up drying plants in Tasmania for which they continued to buy in rough-sawn timber. This third phase lasted only briefly as the merchants subsequently proceeded to buy up the small mills and integrate production within their firms.

The fourth instance of linkages between different structures of production is taken from the complex interactions between sawmilling, pulp and paper making, and woodchip exports. These articulations took different forms. In one case, the development of sawmilling was mostly supressed in favour of newsprint production. In another of these, sawmilling was progressively incorporated within a firm that made paper in the monopoly structure. In three other cases, sawmilling was articulated with pulp making or woodchip exports through the medium of state planning. We saw that as resources became more of a constraint, the continuation of sawmilling became more dependent on the development of larger structures.

We also need to consider the situations *without* linkages. The first two pulp and paper mills were developed virtually independently of other structures and appeared as simple additions to the Tasmanian industrial structure though their initial development substantially affected the subsequent development of sawmilling.

The empirical structures identified in the case study have been remarkably persistent and all but two - the prison-farm mode and manual production for merchant trade - still exist. The structural changes that we have considered have been those of conflicting and adjusting relationships that, in several cases just reviewed, have roughly fitted the model of articulation. In contrast, the case study does not contain instances of rapid transition in which one structure of production simply displaced a contradictory one.

Finally, we need to review the ability of *single agents* to enter *multiple structures*. We found that individuals might be both convict

workers and proletarians in different parts of the working day.[4] Similarly a company might produce woodchips in the global sub-mode, paper in the monopoly sub-mode, and sawn timber in the competitive sub-mode. The point to be recalled is that structures are defined by their *relationships*, not by their agents, even though it is convenient to label agents by the structures in which they mainly operate. Changes between different structures can be reflected within single agents as they decide how to allocate resources - the convict, his labour power; APPM, its investments.

THE STATE

In setting up the theoretical framework within which to place this study, we briefly mentioned four schools into which contemporary radical theories of the nature of the state within capitalist societies have been classified. These were the instrumental, class structure, capital logic, and dynamic schools, each different in its model's mechanisms and complexity. In reviewing the relationships between the state and the many socio-economic structures under which wood was produced in Tasmania we will call on each of the theories for the insights it provides to different situations. Many specific situations are often complicated as the relationships they entail can span several levels - municipal, Tasmanian, Australian, or imperial. There were several hierarchically or laterally ordered administrations linked to several structures of production. We will proceed chronologically.

The study started with direct state action - the invasion and settling of Van Diemen's Land. This fulfilled several functions for the British: it aided Britain's struggle for hegemony, by pre-empting French settlement; it aided class rule in Britain, by providing a destination for transportation, and hence aided capital accumulation during the rise of competitive capitalism; it might have supplied strategic materials of flax and timber; and it might have provided a base for eastern trade. Some of these functions fall

within the focus of world-systems theories, some under pluralist theories of power struggles between nations, while the convict system fits the model in which the state is seen as an instrument used by the bourgeoisie to advance their class interests.

The instrumental theory of the state not only describes and explains the origins of the convict system, but suits the bloody circumstances under which timber was produced in the punishment stations. However, Van Diemen's Land was not just a prison farm and the growing settlement placed its own demands upon the state. The state adapted the prison farm system to facilitate the creation of local capital - by operating a Commissariat and by using convicts as part-time proletarians - while still meeting British needs. From the first, the state met the needs of capital by granting land and assigning convict labour to the settlers, activities that grew dramatically from the 1820's on when commodity production could be expanded to supply export markets. Whilst this fits a model of the state functioning to serve the logical needs for capital accumulation, we also noted that the connections between the bourgeoisie and the state were often personal ones - as when the first sawmiller arrived with a letter of introduction to Governor Arthur - more the focus of instrumental theory. State actions were also critical to the formation and reproduction of relations within and between classes through mechanisms such as: the direct coercion of convicts, the licensing of timber cutters, the dispossession of independent simple commodity producers from the Waste Lands, and the granting of preferential and cumulative favours to the larger capitalists. Such matters fall within the domain of theories of class structure.

The change in the state's external relations, on obtaining self-government, enabled the landed gentry and the merchants to rise to power in the Tasmanian parliament and create a municipal level of government over which they held sway. Instrumental theory provides quite an adequate model for the manner in which the gentry then used the two levels of state against both the proletariat and smaller capitalists. Legislation was passed to control labour and give pastoralists the right to clear timber cutters from the sheep runs.

Moreover the state was administered preferentially by placing the burden of increased municipal rates on the smaller landowners, and ensuring that timber licence fees were collected assiduously in the one region in which smallholders and timber workers were preponderant. Of course the state also continued to supply land by sale and lease to assist capital to expand, and endeavoured to improve the infrastructure of roads and bridges with the limited funds that could be taxed from the depressed economy.

We saw that the increasing investment in sawmilling in the 1870's and 1880's was followed by legislation to reserve stands of good timber from agricultural selection until the mills had cut them, though the capitals were small and the state failed to implement the legislation to any appreciable extent. This situation could be seen to fit an instrumental or capital logic model, with due allowance for the predominant place of agricultural or pastoral production. By contrast, the state acted decisively at the turn of the century to assist larger capitalists from Britain to produce timber in Tasmania. The two new mills they built had substantial immovable investments in forest railways which the state protected by conceding far longer and more extensive rights in the forest than were available to smaller locally owned mills. No obvious connection is apparent between the state and the companies, so that the situation fits the capital logic rather than the instrumental model.

Building the Empire, in a quite literal sense, expanded the markets available to exporters of Tasmanian timber but required the state to take on the functions of promotion and inspection that could not be handled by individual capitalists. While the theory is that the state acts to fulfill the logical needs of capital, it does not explain why such needs were so poorly administered.

Relationships between the Australian level of state and the structures producing timber in Tasmania became important after the First World War as Australia industrialised. The Australian state took on an industrial research function and successfully adapted processes to season timber artificially and make pulp from eucalypt

woods. These innovations opened new opportunities for manufacturing in Tasmania which were seized by larger mainland-based capitalists. The Tasmanian state met the needs of the pulp and paper companies by conceding them large areas of forest, granting various access and service rights, and even on occasion loaning some of the capital. This situation fits readily into that model of the Australian and Tasmanian states that sees them acting to meet the needs of capital.

Both the Commonwealth and Tasmanian states set up institutions to mediate between capital and labour over wages and conditions of work. Class conflicts were sometimes conducted through these institutions and sometimes not. For example the Huon timber strike of 1921-22 originated in a struggle that could not be contained within the Commonwealth Arbitration Court. The Tasmanian state was not an instrument of one class or the other; it attempted concilliation, it aided capital with police guards for scabs, but it aided labour by doing the latter half-heartedly. (The nature of the state in mediating class conflicts is the central focus of the class structuralist model).

Other aspects of the inter-war period were more complex, the two levels of state interacting in their relationships with the structures of production. There were many instrumental connections between leading industrialists and Commonwealth bodies, such as the CSIRO and the Development and Migration Commission, that powerfully influenced Tasmania's development. The Tasmanian Timber Association, for example, was initiated by a Tasmanian government on the advice of Commonwealth officials.

The complexity of these relationships increased as production increased and as the various structures and capitals conflicted and complemented each other over the exploitation of the limited forest resources. The Tasmanian state took on the function of integrating production, bringing together sawmilling, pulp making, woodchip exports, and landowners. Neither the class structuralist, instrumental nor capital the logic models appear to be sufficient by themselves to analyse such complex situations. What they do

provide, however, is a composite model of the state acting within a complex and dynamic network of class economic structures, which is a conception much nearer to the empirical reality of the 1960's and 1970's than any contending picture.

The actions of the state in conducting forestry need to be reviewed in more detail.

THE CONSTRUCTION OF FORESTRY

Forestry, as the planned management of forests for the production of commodities, has three industrial functions: it may be *productive* by providing wood or logging roads, *reproductive* by regenerating the forest to provide future crops, or *integrative* by allocating crops between commodities. Our interest here is to review how forestry was constructed in Tasmania, primarily as a state activity, in relation to changes in the structures of production, and particularly how the distinctive feature of being able to renew the resource, and hence reproduce or even expand production over a long period, became established.

For the first three-quarters of the nineteenth century the main thrust of the state's land policy was to promote settlement. Wood was superabundant. Although the state allowed cutting on the Waste Lands of the Crown, the measures to licence cutters were designed more to control workers and raise a little revenue than deliberately to aid production.

In the last quarter of the century, the state did take deliberate action to assist *production* by making reserves and granting leases and concessions. These protected resources against agricultural selection for periods of 5 to 42 years, which were long enough to cover the depreciation of the immovable part of sawmillers' capital, but not long enough to ensure reproduction of the forest.

For the first twenty years of the twentieth century, the *case for reproduction* - that is for forest protection, regeneration and

plantations - was put forward by imperial and Commonwealth sources and did result in the *Forestry Act, 1920*. Although this case was recognised in legislation, it was only partially implemented over the next quarter of a century. The main progress was in dedicating land as State Forest, though this occurred mainly where there was no other competing capital. The case for reproduction continued to be pressed by the Commonwealth which was closely connected with the large Anglo-Australian capital then trying to establish pulp and paper making. It was opposed by the sawmillers, with their competitive and small business structures, because of the costs it might have imposed (directly or by preventing royalty cheating), and it was delayed by the depression and the Second World War.

The *implementation of reproduction* function in the forests was closely, and it is argued necessarily, connected to the advent of the pulp and paper mills. The capital invested in pulp and paper mills, unlike that in sawmills, was effectively immovable because of the high cost of shifting the machinery, the extensive infrastructure, the progressive improvements that repeatedly extended the depreciation time required on a site, and as alternative forest concessions were few and far between. Unlike sawmills, pulp and paper mills could not 'cut out and get out'. Hence to ensure the continual reproduction of their capital they needed:

- rights long enough to allow the forest to be renewed, and
- regeneration operations to be undertaken that would do so.

The state acted readily to provide them with rights to forest concessions for 80 or more years, and acted in two ways to meet the need for regeneration operations. In all the concession agreements made between 1924 (Burnie) and 1946 (West Tamar), when the sawmillers opposed the costs of reproduction and the state's administration was extremely weak, the reproduction function was handed to the concession holders. This was not an ideal solution for capital, as forestry is an expensive and bothersome business that ties up capital for an inordinately long time. After the war, the Tasmanian state, with advice from the Commonwealth, reconstructed its administration to meet the needs of heavy industry. Notably it purged the system of

petty corruption, professionalised the service, expanded information and planning activities, and assumed the reproduction function itself in all concession agreements made after 1946. Similarly, the stronger state took on the *integrative* function of allocating the crop between commodities and capitals. The adoption of the reproduction and integrative functions by the state was achieved increasingly at the taxpayer's expense, which overcame opposition from the sawmillers and enabled capital to socialise significant costs.

The state continued to exercise its productive, reproductive and integrative functions during the 1970's on an enlarged scale as cutting doubled to supply the woodchip export trade. Although the woodchip mills were relatively cheap and (their export permits) ostensibly had a short tenure (5-15 years), the state still renewed the resources to encourage subsequent industrialisation. Also, the state extended its reproduction function from public lands to private ones in the late-1970's by setting up advisory services and providing reproduction subsidies.

This account of the construction of forestry in Tasmania has related changes in the state's activities mostly to the needs of *individual* capitalists in the different structures of production. Notably, the state appeared to take little or ineffective action to meet the *general* needs of capital for the renewal of the forest resource prior to the Second World War. Since then, the adoption of the reproduction function by the state has the potential to serve both the identified individual large capitalists in the pulp and paper sector as well as the unidentified *general* needs for sawlogs; indeed the state expects to supply increasing quantities of *both* products from its plantations and regenerated forests in the future.[5] Hence, in one period the state appears not to have behaved as might be expected from the capital logic model, while in the second period this model appears more useful.

FUTURE DEVELOPMENT

We have now completed our review of the historical development of the wood industries and forestry in Tasmania and can consider what the patterns we have detected might mean for the future. Before doing this, however, we must canvass the general issue of looking forward from history, and of doing so at present.

Looking forward

We considered (in Chapter 1) that 'development' implied an optimistic endeavour to create a 'better' future based on an analysis of the past. Although it is a truism that human actions are informed by experience, the extent and value of the information to hand is invariably limited, and social forecasts have often proved wrong.[6] The catalogue of difficulties is large and so are the dangers of prediction. Because contemporary social systems of the sort discussed here are both big and intricate, there is the danger of ignoring macro-factors while refining detail. Because development is an optimistic endeavour, there is the danger of confusing goals with analysis; a danger which is aggravated by any teleological assumptions. Even if *what* development may occur can be predicted, the question of *when* it may happen is a separate one which may be impossible to forecast. Moreover, it is precisely where forecasts are most difficult to make and have the greatest uncertainty, that they are often most needed.

Development forecasts both depend on future actions and are required to guide them, yet future human actions and their outcomes are always problematic, hence few forecasts can be more than probabilistic expectations. Summarising the problems involved in looking forward, Hobsbawm concludes:

> The structures of human societies, their processes and mechanisms of reproduction, change and transformation are such as to restrict the number of things that can happen, determine some of the things that will happen, and assign a greater or lesser probability to much of the rest.[7]

Looking forward now

This analysis has been concerned with structural change *within* industrial capitalism. The theory we applied to seek such patterns was developed during the same period, hence our forecasts may well only apply if *it* endures. How likely is this?

Modernization theorists certainly believe the future will be the present extension of the past writ large. Marxists on the other hand hold that the working out of present patterns will make it impossible for capitalism to survive, and Neo-Malthusians (also described in Chapter 1) believe that the growth of population and industrialisation may have reached, or over-reached, their limits whether capitalist or no. Marxists seek to *hasten* the crisis of capitalism's demise (in order to create a socialist society in its place), whereas Neo-Malthusians seek to *avert* ecological, nutritional, and resource crises by timely action. By contrast, other theorists have held that the present stage is being superseded *already* by a 'Post-industrial' one characterised by the rise of 'knowledge industries' and the replacement of class-divisive property relations by technocratic leadership in a corporatist polity.[8] While the advent of the global sub-mode of production dominated by giant transnational corporations may present such a corporatist and technocratic image in the core, the global operations of transnational corporations seem more adequately explained along Marxist lines.

The position taken here is that current changes to the world-system do not constitute a radical disjuncture, yet do amount to substantial structural changes *within* capitalism; they are being reflected in Australia in terms described as crises *of* capitalism, but not in terms of an imminent revolution in the relations of production or forms of the state.

Looking forward in Australia

We considered the transformation of the Australian economy during the 1970's in relation to changes in the world-system. The

effects were far from transient so that, as Catley and McFarlane recently observed '... Australia entered the 1980's locked into a social and economic crisis. It is the most serious and prolonged crisis for a generation.'[9]

Several analyses and forecasts of likely developments in the 1980's have been published, but none predict a sudden improvement to the current situation. For example, Catley and McFarlane have examined a range of possible scenarios, most of which envisage increasing penetration by foreign capital, rising mineral and energy exports, some de-industrialisation and rising unemployment, counteracted by various mixes of authoritarian control or welfare relief.[10] From a different theoretical vantage point, Theophanous has developed possible scenarios much like Catley and McFarlane's; one envisaged authoritarian control, and another continued stagnation. Both Theophanous, and Catley and McFarlane, have developed what they regarded as more optimistic scenarios based on transformations to a more socialistic society, but neither has established the feasibility of these within the world-system, nor do they appear to regard them as very probable. Without debating the relative merits of these and other forecasts, it will be sufficient to note that they emphasise four points:

- The problems in Australia are part of the problems of continuing structural change within capitalism as a whole.
- Australia will become more firmly held in the world-system as a result of the continuing penetration of foreign capital and rising mineral and energy exports.
- Conflicts between and within classes as well as between the States and the Commonwealth are expected to heighten as a result of some or all of: continuing unemployment, falling real and social wages, de-industrialisation, and uneven regional development.
- These conflicts will focus particularly on the state. This is expected because of the crucial place of the state in providing both infrastructure for private capital and services for the communal welfare. The competition for funds within reduced state

budgets will highlight the contradictions between the reality and democratic expectations of what the capitalist state can do.

THE FUTURE DEVELOPMENT OF THE WOOD INDUSTRIES AND FORESTRY

Given the difficulties and uncertainties of looking forward and the features that analysts feel will dominate Australian development, we now want to see what the patterns we have detected might mean in the future development of Tasmanian wood industries.

World-historic perspective

Three critical points were raised by our world-historic perspective. Firstly, international and to a lesser degree Australian economic and political affairs were often the over-riding determinants of development. Secondly, there was often a long delay between the emergence of the salient features taken to characterise a new stage of capitalism and their entry into Tasmanian timber production. Thirdly, we should not necessarily expect development to proceed in a linear cumulative manner, and it is possible for *undevelopment* to succeed *development*.

We saw that the Tasmanian wood industries have become increasingly incorporated into larger scale structures due to the continued concentration of capital, the centralisation of ownership into non-Tasmanian hands, and their entry into the 'resources boom' (exporting over half the wood cut in an unmanufactured state). Whereas the wood industries have often lagged behind salient developments in the past, their incorporation into Australian and international structures makes it likely that international changes will be reflected more rapidly in Tasmania.

Structures of production

In reviewing the structure of the industry, we saw that the several structures of production involved have been remarkably

persistent, but that the continued concentration of capital has left the bulk of the industry in the control of only a handful of companies of which one has the lion's share. This not only means that any forecasts about structures are contingent upon the performance of *individual* companies - a matter not dealt with at all in this work - but more importantly reveals a perilous dependency in the Tasmanian situation. We will consider each structure in turn.

The global sub-mode is firmly established, exporting woodchips to Japan. The conditions for export permits and forest concessions laid down by the Commonwealth and Tasmanian governments envisage that woodchip mills might be upgraded to produce pulp. A large pulpmill to be built jointly by Japanese and APPM capitals has even been proposed. This would produce pulp to make paper both at Wesley Vale for the Australian market and in Japan.[12] Hence it would operate in both the monopoly and global sub-modes. While particular outcomes will be governed by the specific circumstances of individual companies and influenced by state policies, upgrading appears unlikely - mainly because Japanese capital has already been invested in pulping capacity to process the Tasmanian wood in Japan. Overall, any developments that do occur appear likely to tie Tasmania even more firmly to the global structure of production with the inherent risks of becoming more dependent on market fluctuations and investment decisions beyond the reach of even the Australian state.

The monopoly sub-mode within which pulp and paper is produced is firmly established in the Australian economy and, given the persistence of production structures, must be expected to endure in Tasmania. Nevertheless, two trends that may qualify future development must be noted. Firstly, APPM and probably APM will continue to operate in both the monopoly and global sub-modes. Secondly, Tasmania no longer provides the sole site for Australian newsprint production. These trends incorporate Tasmanian production into wider spheres so that the reduction, continuation or expansion of the Tasmanian mills will become contingent on the allocation of production and capital between branches.

The competitive sub-mode within which sawn timber is produced is composed of distinct structures which must be considered separately. Firstly, the three large companies whose main business is in the global and monopoly sub-modes, and which represent varying amounts of foreign capital, control some 40% of timber production. They appear certain to continue, subject only to the unlikely withdrawal of foreign capital. Secondly, the Tasmanian and mainland merchant/sawmillers who control a similar amount of production appear firmly entrenched. This structure has proved most persistent, though the continuation of any of the smaller family firms is always contingent on dynastic circumstances. Lastly, some of the small sawmills operating in competitive and small business structures will almost certainly persist, though the proportion of wood cut by them is likely to fall. Over all, some further concentration of production may be expected which, with increased investment in more modern machines and a shift to cutting more plantation softwood, is likely to reduce employment in sawmilling. However, this may be partially offset by increased processing by some of the smaller companies seeking specialised markets.

State

In our review of the ways in which the state has acted, we saw that although some situations could be explained by quite simple models, the situation since the 1950's has shown that the state has entered the relations of production, reproduction and integration of capital through forestry in a complex and dynamic manner. Moreover, the costs of state forestry have increased rapidly, partly at the taxpayer's expense. Analytic expectations, mentioned earlier, that the state's actions, and particularly costs, will become the focus of increasing conflict in Australia, is almost certain to extend to the wood industries and forestry sector. We will consider each function in turn.

In relation to the production function, the state administration is likely to attempt to recover the full cost of providing services, such as roads, from the industry. Capital is likely to mount

counter-attacks on a range of grounds from the accounting conventions applied, the operational competence of the administration, to the extent of the state involvement in production.

In relation to the integration of complementary and conflicting uses of the forest, the state will have to retain its integrative function because a substantial number of competitive sawmills are expected to survive and to overlap the operations of the big woodchip and pulp and paper companies. Although often practised with apparent reasonableness and good humour, the integrative function will always be a potentially contentious one. In this, there is no reason to expect that the state will not continue to favour large capital over small *irrespective of its origin*, and hence support even further extensions of non-Tasmanian ownership.

In relation to the reproductive function, we saw that under the early concessions the forest was regenerated by the pulp and paper companies at their own expense. On the later concessions it was regenerated by the state, partly at the taxpayers' expense, and on private property it was regenerated again partly at the taxpayers' expense. Given that the state budget is likely to continue to be strained, the extent of these subsidies for forestry will almost certainly be questioned - particularly as the early concessions function without them. Again, the state administration will attempt to recover its costs from industry. Capital will resist this by raising the real or imagined possibility of current production or future development being transferred to another State or country - a possibility made more real by the incorporation of production on larger scales.

Tasmanian development

The future that emerges by assembling the forecasts just made is a gloomy one for Tasmanian workers and taxpayers as far as the wood industries and forestry sector is concerned. The mills producing in Tasmania will function mostly as components of structures that will span states, nations or sectors, and the choice between some limited

further industrialisation or some degree of de-industrialisation will be determined by factors and in places beyond Tasmania's reach. It appears likely that overall employment will decline as the limited employment that might be generated by upgrading a woodchip mill to a modern pulpmill would be insufficient to offset the reduction in sawmilling and a possible downward drift in existing pulp and paper mills.

Conflicts over the costs of public forestry will almost certainly heighten, yet may be unable to be resolved. That is, taxpayers may have to continue to support forestry to avert transfers of production out of the State. There is no sign that Tasmanian average incomes or state revenues will be increased by profits from the wood industries; if anything the transfer of ownership to non-Tasmanian hands is likely to continue.

PROGRESS AND DEVELOPMENT : MODERNIZATION AND RADICAL THEORIES

The idea of progress or development, discussed at the start of this work, carries the promise that human endeavour guided by human reason can improve the material conditions of existence. It rests on the belief that rational guides can be obtained by joining syntheses of the past to prophecies for the future.[13] The point of constructing such syntheses is not merely to narrate the past and project a future but to enable purposive development strategies to be prepared. Hence the ultimate test of historical analyses, such as this work, must be not only whether they permit prophesies and development strategies to be prepared, but whether resultant action is effective.

Development has been vigorously pursued in the Tasmanian wood industries according to strategies consistent with modernization theories and their efficacy must and can be evaluated accordingly. Such a test is clearly not possible for radical theories. The most that can be attempted in this final section is to review the narrative briefly to observe some of the strengths and weaknesses of

the modernization approach, and then to show that the radical approach taken here offers a rational alternative.

Modernization

Development has been pursued in Tasmania ever since the 1820's by a strategy based on state 'encouragement' of capitalist investment, with various forms of hand-outs and subsidies. The major forms of the strategy were: first the supply of land and some of the means of production and convict labour to settlers arriving with capital, and second, the supply of cheap energy and resources to heavy industry under policies of hydro-industrialisation and concession. According to modernization theory, the associated capital investments should have led to an increase in and diffusion of economic benefits, and the modernization of society at large.

Clearly, in several situations the modernization theory implicit above was vindicated by the results. For example, the expansion of mining in the 1880's did increase general prosperity and break up a stagnant social structure. Again, the pulp and paper industry established in the 1940's did increase employment, under far better working conditions than had existed previously in the wood industries. Most progressively, large scale investment did lead to the forest resource being reproduced. Overall, Tasmania did develop into a complex, modern, industrial society.

Equally clearly, in other situations the results were quite contrary to modernization expectations. For example, investment in sawmilling in the 1850's and 1870's led not to rising prosperity, but to a long period during which mechanical and manual production interacted, each serving to depress the other. Increased investment and expanded wood production in the 1970's was also accompanied by falling rather than increasing employment. Overall, in spite of applying modernization policies vigorously, Tasmanian development has fallen behind that on the mainland. Net outmigration has occurred almost continuously for over a century and Tasmanian development has ended as the 'Tasmanian Problem' of relative economic decline and incipient regional depression.

It is in analysing the 'Tasmanian Problem' and revising the development strategy that the widespread criticisms of modernization theory can be most obviously applied. We noted in the previous chapter that both the Commonwealth and Tasmanian governments examined the economic situation during the 1970's and suggested reforms. Thus the Commonwealth (Callaghan) inquiry observed the lower average incomes in Tasmania, the lower proportion of highly paid executives and professionals, the lower profits received, the capital intensive mills that failed to diffuse the benefits expected, the increasing vulnerability of the Tasmanian economy to fluctuations in the affairs of a handful of large mills, and the severe limitations on state revenues which have inhibited greater 'assistance' to further industrialisation. Yet the origins and causes of these phenomena were hardly examined, and Tasmania's major problem was declared to be Bass Strait! Hardly surprisingly, the inquiry did little more than collate a few *ad hoc* proposals and recommend encouraging smaller scale and more diverse manufacturing. Little cheap power or resources are left to 'attract' any new large industry. Indeed, the inquiry recognised that its proposals would be insufficient, that economic decline, unemployment and outmigration would continue.[14]

Radical theory

Forecasts of the future provided by the modernization approach, as exemplified by the Commonwealth's inquiry, are not in many respects dissimilar to those made here according to radical theory. Where then does the difference lie?

The vital difference between the two theoretical camps lies in the location of the dynamics for change - the causes and processes of development. Hence rational guides to further endeavours are constructed on different principles.

The modernizers, locating the dynamic for progress in capital investment and the outward diffusion of benefits, are unable adequately to theorise about uneven development, or rather the relative undevelopment of the Tasmanian region after more than a century of modernization policies.

The radical analysis conducted here, locating the dynamic for change in the conflicts between and within classes over the accumulation of capital, is able to theorise about the Tasmanian situation in the wood industries sector in a more penetrating manner. Firstly, it was shown that Tasmanian development was determined in part by the historic development of capitalism on a world - and to a lesser extent Australian - scale. Secondly, it was shown how the continued concentration of capital led to the incorporation of much of the Tasmanian wood industries on an ever wider scale. Lastly, it was shown that the Tasmanian state acted in many ways, some of them most complex, to further the interests of capital accumulation. Radical analysis enables the actions of the state in the conduct of the several forestry functions to be closely correlated to changes in the structures of production.

Thus radical analysis is able to theorise *both* progressive changes, such as the benefits flowing from some industrial expansion or the renewal of forest resources, *and* the structural changes that have increased non-Tasmanian ownership and decreased Tasmanian benefits. The thrust of radical analysis is the identification of changes in the ownership of the means of production, where control of development under capitalism is taken primarily to lie.

This thesis rests on an analysis of the past. It identifies the moments of development as the formidable processes of capitalism. No policies are propounded. That is a separate task; but endeavours for progress can only succeed if the nature of the system is rationally analysed and understood.

NOTES

Additional abbreviations used in notes

ABS	Australian Bureau of Statistics
ANZAAS	Australia and New Zealand Association for the Advancement of Science
CPP	Australia, *Commonwealth Parliamentary Papers* (year/paper)
HRA	*Historical Records of Australia* (series/volume/page)

Van Diemen's Land or Tasmania:

CSO	Colonial Secretary's Office (series/volume/file)
FC	Forestry Commission (series/file)
FD	Forestry Department - files are included in FC series
JHA	*Journals of the House of Assembly* (year/paper)
JPP	*Journals and Papers of Parliament* (year/paper)
JPPP	*Journals and Printed Papers of Parliament* (year/paper)
PPLC	*Papers and Proceedings of the Legislative Council* (year/paper)
LSD	Lands and Surveys Department (series/volume/file)

NOTES TO PREFACE

1. J.B. Dargavel, 'The political detection of an Australian forestry perspective'. The few radical critiques published have been made by environmentalists and geographers rather than foresters. See for example: R. Hayter, 'Patterns of entry of foreign-controlled investments in the forest product sector of British Columbia'; and W.J. Jonas, 'Capitalism in the periphery: the Papua New Guinea timber industry'.

2. J. Westoby, 'Forest industries for socio-economic development' (1978). Westoby's seminal paper, arguing the advantages of industrial forest development, was 'Forest industries in the attack on economic underdevelopment' (1962).

3. A.G. Frank, *Capitalism and underdevelopment.*

4. I. Wallerstein, *The capitalist world-economy.*

NOTES TO CHAPTER 1

1. W.C. Wentworth in 1819 and E.G. Whitlam in 1973 - R.W. Connell and T.H. Irving, *Class structure in Australian history*, pp.63, 337-338.

Notes to Chapter 1

2. E.J. Hobsbawm, *The age of revolution 1789-1848.*

3. R.D.C. Black, *Readings in the development of economic analysis;* Ronald Fletcher, *The making of sociology;* Kenneth Thompson & Jeremy Tunstall, *Sociological perspectives.*

4. Morris Ginsberg, *The idea of progress,* p.2.

5. S. Pollard, *The idea of progress.* A standard work is J.B. Bury, *The idea of progress.*

6. *S. Pollard, op.cit.,* p.9.

7. Marquis de Condorcet, *Outline of an historical picture of the progress of the human mind,* 1794, *In,* W.W. Wagner, *The idea of progress since the Renaissance,* pp.85-86.

8. Thomas Malthus, *Essay on the principle of population, In* R.D.C. Black *op.cit.,* p.90.

9. Donella H. Meadows, *et al., The limits to growth;* Mihajlo Mesarovic & Eduard Pestel, *Mankind at the turning point.*

10. J.R. Maddox, *The doomsday syndrome.*

11. Johan Galtung, 'The limits to growth and class politics'.

12. The extent of the influence in the international arena is debatable. J.D.B. Miller, 'Morality, interests and rationalism', has argued that moral claims barely extend beyond rationalised national interests, whereas R.J. Vincent, 'Western conceptions of a universal moral order', has argued for the persistence of morality on the grounds of universality and natural law. Both *In* Ralph Pettman *Moral claims in world affairs.*

13. S. Pollard, *op.cit.,* p.9.

14. J.B. Bury, *op.cit.,* pp.144-145.

15. S. Pollard, *op.cit.,* pp.93-94.

16. Auguste Comte, *Positive philosophy,* 1842, *In,* K. Thompson & J. Tunstall, *op.cit.,* p.24-28.

17. Hegel held that:
> '... the state is an individual totality of which you cannot select any particular side, even a supremely important one such as its political constitution, and deliberate and decide respecting it in that isolated form.'

cited by R. Fletcher, *op.cit.,* vol.1, p.195.

18. Comte believed that:

> 'The economic or industrial analysis of society cannot be effected in the positive method, apart from its intellectual, moral and political analysis, past and present. ... In the great question of machinery this is remarkably illustrated. This is one of the cases of inconvenience inherent in every industrial improvement, from its tendency to disturb, more or less, and for a longer or shorter time, the mode of life of the labouring classes. Instead of recognising in the urgent remonstrances called forth by this chasm in our social order one of the most eminent and pressing occasions for the application of social science, our economists can do nothing better than repeat, with pitiless pedantry, their barren aphorism of absolute industrial liberty.'

August Comte, *Positive philosophy, In* K. Thompson & J. Tunstall, *op.cit.*, p.23.

19. In an early example, Condorcet recognised social development as having proceeded through nine stages from simple hordes of hunter-gatherers to the consciously constructed society of Post-Revolutionary France, from which an enlightened tenth stage could be built. Marquis de Condorcet, *Outline of an historical picture of the progress of the human mind, In* W. Wagner, *op.cit.*, p.84.

20. Auguste Comte, *Positive philosophy, In* K. Thompson & J. Tunstall, *op.cit.*, p.26.

21. Marx also recognised a distinct Asiatic mode of production that did not form part of the sequence of Western history.

22. A.G. Frank, *Capitalism and underdevelopment.*

23. Adam Smith, *The wealth of nations;* S. Pollard, *op.cit.*, pp.74-77.

24. S. Pollard, *op.cit.*, p.139.

25. *Ibid*, p.138.

26. Ernest Gellner, 'A social contract in search of an idiom'.

27. Cora V. Baldock, *Australia and social change theory*, pp.7-8.

28. S. Pollard, *op.cit.*, pp.152-155.

29. Karl Marx, *Theses on Feuerbach, In* K. Marx & F. Engels, *Collected Works*, p.30.

30. P.L. Berger & T. Luckman, *The social construction of reality.*

31. Ralph Pettman, *State and class*, pp.95-96.

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32. See for example: Joe Bailey, *Social theory for planning*; Cora V. Baldock, *op.cit.*; A.E. Havens, 'Methodological issues in the study of development'; Richard Higgott, 'Competing theoretical perspectives on development and underdevelopment'; Ralph Pettman, *State and class, op.cit*; Aidan Foster-Carter, 'From Rostow to Gunder Frank: competing paradigms in the analysis of underdevelopment'.

33. The literature has been surveyed in collections such as Gerald M. Meier, *Leading issues in economic development.* D. McClelland, *The achieving society*, reports training businessmen in an Indian town under a scheme designed to raise their 'need to achieve'. W. Brandt, *North-South: a programme for survival.*

34. A.O. Hirschmann, *The strategy of economic development.*

35. See note 32.

36. Ralph Pettman, *State and class, op.cit.*, p.265.

37. See note 32. Four of the theories which do not fit neatly into either camp are: non-Marxist conflict theories such as Dahrendorf's, economic structuralism such as Prebisch', elite theory such as Mills', and technocratic or post-industrial theories such as Bell's.

38. Isiah Berlin, *Karl Marx: his life and environment*, p.89. The most widely referred to formulation is that in the *Preface to a contribution to the critique of political economy.* The economic culmination is in *Capital.*

39. Even classic formulations by Engels and Bukharin differ significantly from Marx's. L. Kolakowski, *Main currents of Marxism* vol.1, pp.399-408, sums up the differences between Marx and Engels; and in vol.3, pp.56-63, sums up the 'simplistic mechanistic' presentation by Bukharin.

40. L. Kolakowski, *op.cit.*, vol.1, p.60.

41. Hegel's dialectic is discussed by L. Kolakowski, *op.cit.*, vol.1, pp.56-80; and by I. Berlin, *op.cit.*, pp. 37-44.

42. L. Kolakowski, *op.cit.*, vol.1, p.71.

43. Cited by L. Kolakowski, *op.cit.*, vol.1, p.137, from *The economic and philosophical manuscripts of 1844.*

44. K. Marx, *Preface to a contribution to a critique of political economy.*

45. *Ibid.*

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46 K. Marx & F. Engels, *Manifesto of the Communist Party, In* K. Marx & F. Engels, *Collected works, op.cit.*, p.38.

47. Nicos Poulantzas, *Classes in contemporary capitalism*, pp.14-24, elaborates a Marxist definition.

48. K. Marx, *Capital.* See also: E. Mandel, *Marxist economic theory*; Geoffrey Kay, *Development and underdevelopment.*

49. L. Kolakowski, *op.cit.*; C. Wright Mills, *The Marxists*; I. Berlin, *op.cit.*

50. C. W. Mills, *op.cit.*, p.129.

51. *Ibid.*

52. L. Kolakowski, *op.cit.*, vol.1, p.325.

53. *Ibid*, vol,1, pp.363-371.

54. *Ibid*, vol.1, p.371; I. Berlin, *op.cit.*, p.116.

55. L. Kolakowski, *op.cit.*, vol.3, pp.240-242.

56. Eric Olin Wright, *Class, crisis and the state*, pp.15-27. The six modes of determination were: limitation, selection (positive and negative), reproduction/non-reproduction, functional compatibility, transformation, and mediation.

57. V.I. Lenin, 'Imperialism the highest stage of capitalism'. The appelation was not original and has been used since 1900. E. Mandel, *Late capitalism.*

58. A. Brewer, *Marxist theories of imperialism*, ch.8, summarizes the work of Rey and Arrighi.

59. K.D. Gibson, *Structural change within the capitalist mode of production: the case of the Australian economy.* K. Gibson, J. Graham, R. Horvath, and D. Shakow comprise an international group of geographers working to develop Marxist theory.

60. G. Poggi, 'The modern state and the idea of progress'.

61. K. Marx and F. Engels, *Manifesto of the Communist Party.*

62. A.G. Frank, *Capitalism and underdevelopment in Latin America.* See also, David Booth, 'Andre Gunder Frank: an introduction and appreciation', and other essays *In* Ivar Oxaal *et al., Beyond the sociology of development.* Of the many critiques, see for example: Sanjay Lall, 'Is dependence a useful concept in analysing underdevelopment ?'; and John Browett, 'Into the *cul de sac* of the dependency paradigm with A.G. Frank'.

63. Geoffrey Kay, *Development and underdevelopment*, p.104.

64. Immanuel Wallerstein has elaborated his world systems perspective in the papers collected in his *The capitalist world-economy*. His major study, *The modern world-system*, is to be of four volumes of which the first two have been published (up to 1981): *Capitalist agriculture and the origins of the modern world-economy in the sixteenth century* (1974), and *Mercantilism and the consolidation of the European world-economy, 1600-1750* (1980).

65. I. Wallerstein, 'The rise and future demise of the world capitalist system: concepts for comparative analysis', *In* I. Wallerstein, *The capitalist world-economy*, *op.cit.*, p.15.

66. *Ibid*, p.5.

67. *Ibid*, pp.18-19.

68. Robert Brenner, 'The origins of capitalist development: a critique of Neo-Smithian Marxism'; Theda Skocpol, 'Wallerstein's world capitalist system'.

69. Malcolm L. Alexander, 'Structure and process in the modern world system: the world system of Immanuel Wallerstein and its predecessors'.

70. I. Wallerstein, 'The rise and future demise of the world capitalist system', *op.cit.*, p.27-33. The third and fourth of Wallerstein's main eras are:

1740-1917	Era of industrial capitalism.
1917-	Consolidation of " "

These eras are divided into periods:

1740-1815	Rise of industrial production. British struggle for hegemony.
1815-1873	Britain hegemonic - the 'Workshop of the world'.
1873-1917	Britain declining cf. U.S.
1917-1945	Rise of U.S. German challenges.
1945-1965	U.S. hegemonic.
1970's-	U.S. declining - restructuring in progress.

71. Michael Barrett Brown, 'A critique of Marxist theories of imperialism', *In* Roger Owen and Bob Sutcliffe, *Studies in the theories of imperialism*, p.42.

72. Harry Magdoff, *Imperialism from the colonial age to the present*, pp.100-109.

73. Letter from the Committee of Seventeen that directed the Dutch East India Company to their Governor-General (Anthony Van Diemen) and councillors in Batavia, 11 Apr. 1642, cited by A. Sharp, *The voyages of Abel Tasman*, p.20.

74. The first colonists probably arrived over 20,000 years ago during the last period of glaciation that had lowered the sea level to the extent that Van Diemen's land was part of the mainland. Rising seas separated the island some 12,000-13,500 years ago and reached their present level about 7,000 years ago. Although the aborigines built simple canoes from bundles of bark and travelled to islands 6-8 kilometres off shore, they were quite unable to cross the 130 km of stormy waters in Bass Strait. J. Allen & R. Jones, *Sunda and Sahul*, pp.215,359.

75. K. Marx, *Capital, op.cit.*, vol.1, Preface to 1st German edn., p.19.

76. V.I. Lenin, 'Imperialism', *op.cit.*, p.232. Lenin drew on several earlier studies by Bauer, Hobson, Hilferding and others.

77. M. Barrett Brown, 'A critique...', *op.cit.*, pp.54-55; V.G. Kiernan, *Marxism and imperialism*, pp.37-60.

78. Tom Kemp, 'The Marxist theory of imperialism', *In* R. Owen and B. Sutcliffe, *op.cit.*, pp.28-29.

79. The features listed have been adapted and reordered from those given by James O'Connor, 'The meaning of economic imperialism', *In* K.T. Fann and D.C. Hodges, *Readings in U.S. imperialism*, pp.43-44.

80. E.O. Wright, *Class, crisis and the state, op.cit.*, ch.3.

81. E. Mandel, *Late capitalism.*

82. R. Pettman, *State and class, op.cit.*, p.65.

83. K. Gibson, *Structural change within the capitalist mode of production, op.cit.*, pp.43-47.

84. *Ibid*, pp.114-124.

85. Bob Jessop, 'Recent theories of the capitalist state'; David A. Gold, C.Y.H. Lo and Erik Olin Wright, 'Recent developments in Marxist theories of the capitalist state'.

86. Nicos Poulantzas, *Classes in contemporary capitalism.*

87. Nicos Poulantzas, 'The problem of the capitalist state', *In* Robin Blackburn (ed.), *Ideology in social science*, p.246.

88. Gavan Butler, 'The state and the disposition of the social surplus'.

89. Cited by Bob Jessop, *op.cit.*

Notes to Chapter 1

90. E.O. Wright, *Class, crisis and the state, op.cit.;* Gosta Esping-Andersen, Roger Friedland and E.O. Wright, 'Modes of class struggle and the capitalist state'.

91. P. Corrigan *et al.*, 'The state as a relation of production'.

92. W.B. Greely, *Forest policy*, gives an account of policy in a wide range of countries. P. Sartorius & H. Henle, *Forestry and economic development*, describe policy in Central Europe.

93. D.R. Johnston *et al.*, *Forest planning.*

94. J.C. Westoby, 'Forest industries in the attack on economic underdevelopment'.

95. G.R. Watt, *The planning and evaluation of forestry projects.*

96. The most remarkable apparent switch of interest to the village level is that of the World Bank, which has envisaged channelling 60% of its loans into rural rather than industrial projects - World Bank, *Forestry* (1978).

NOTES TO CHAPTER 2

1. G.W. Evans, *A geographical, historical and topographical account of Van Diemen's Land*, pp.1,47,27.

2. Cook's own observations made at Adventure Bay on Maria Island in January 1777 are most directly to the point:-

> 'The wood is very long and close grained, and extremely tough, very proper for spars, oars and many other uses, and w[o]uld on occasion make good masts perhaps none better if a method could be found to lighten it.'

J.C. Beaglehole, *The journals of Captain James Cook*, p.58.

3. JHA 1866/27 *Statistical summary of Tasmania for the years 1816 to 1865 inclusive*, The estimate of 7,000 was made by G.A. Robinson who had the widest contact with the Aborigines, collected the remnants of their population, 1829-35, and became the official Protector of Aborigines. Using archeological evidence, Rhys Jones has estimated that the population would have been between 3,000 and 4,000 - cited by Lyndall Ryan, *The Aboriginal Tasmanians*, p.14.

4. W.D. Jackson, 'Vegetation', *In* J.L., Davies, *Atlas of Tasmania*, p.30.

5. I. Wallerstein, 'The rise and future demise of the world capitalist system'.

Notes to Chapter 2

6. 800,000 hectares were enclosed 1761-1800, and a further 800,000 in 1801-1850 - cited by Brian Fitzpatrick, *British imperialism in Australia 1783-1833*, p.45.

7. E.J. Hobsbawm, *The age of revolution 1789-1848*, p.46.

8. M. Dobb, *Studies in the development of capitalism*, Ch.4.

9. D.C. Coleman, *The British paper industry 1495 -1860*, Ch.2.

10. *Ibid.* Estimate 0.1 kg per head for about 1600 - p.15; and of 1.1 kg for 1800 - p.105.

11. *Ibid*, pp.88, 147.

12. *Ibid*, p.206.

13. *Ibid*, p.292. From 1841 to 1851, the proportion of males over 20 years employed fell from 62% to 33%, being replaced by females (increased from 28% to 48%) and males under 20 (increased from 10% to 19%)

14. F. Klemm, *A history of western technology*, p.58; E.N. Simons, 'The evolution of the saw'.

15. W.R. Fisher's text on *Forest Utilization*, (2nd edn., 1908) was based on a translation of Gayer's text of 1863. A detailed description of water-powered sawmills is given for which the improvement in sawblades from 5.5-7 mm thickness to 1.75-2 mm is noted.

16. John Evelyn, *Sylva* (3rd edn., 1674), p.196, shows a picture of a water-driven 'Norway engine or Saw-mill' using three saws in a frame to resaw a squared piece. E.N. Simons, *op.cit.*, reproduces a picture of a sixteenth century man-driven saw with multiple blades and refers to mills with several blades working on the Danube in the same century. G.R. Wilkins, 'History of circular saws'.

17. J.R. Forbes, *Man the maker*, p.148, notes that a wind-powered sawmill was destroyed in 1630. K. Marx, *Capital*, *op.cit*, vol.1, p.404.

18. Peter Koch, 'History of wood machining', notes a water-powered sawmill operating in New Hampshire with a gate saw in 1634. J.W. Oliver, *History of American technology*, p.14, mentions a sawmill built by the Dutch on Manhattan Island in 1635 and the general use of sawmills throughout New England by 1700. Oliver, p.4, also notes that in the earliest mills the logs were moved through the saws by hand with the aid of spikes but that this method was replaced by log carriages moved with cog wheels. A.R.M. Lower, *Great Britain's woodyard*, p.42, notes that there were 90 sawmills operating in Nova Scotia by 1785.

Notes to Chapter 2

19. B.R. Mitchell, *Abstract of British historical statistics*, - median estimates.

20. Robert Owen provided a notable lead by pamphlet and practice; he acquired his New Lanark mill which he operated on more humane lines in 1800, published *Essays on the formation of character* in 1813, and attempted to establish a co-operative cotton mill at New Harmony in Indiana in 1825. Dates of salient legislation which were mainly restricted to textile mills and mines were:- 1833 Exclusion of children under 9 from textile mills and the appointment of inspectors; 1842 Exclusion of boys under 10 and women from mines; 1844 Fencing of machinery; 1847 Ten Hours Act (8 in lieu of 12 hour days previously worked). It was only after 1860 that the Factory Acts were extended to industry generally.

21. B. Fitzpatrick, *op. cit.*, pp.47-50.

22. *Ibid*, pp.174-81.

23. The rise of industrial interests is marked by the Reform Act of 1832 which spread the electorates more evenly to allow urban representation and destroy the system of Parlimentary patronage, yet which by restricting the franchise (to 655,000 property owners out of a population of 14 million) effectively prevented Parliament from being a forum in which the power of the ruling classes could be challenged. The rise of industrial capitalists into the ruling class is epitomised in the debates on the Corn Laws. Landed interests maintained tariffs to preserve a high and stable price for their domestic wheat, whereas manufacturers wanted the price of bread, and hence wages, kept low. It was not until 1847 that the interests of industrial capital prevailed and the duty on imported corn was reduced to 1s a bushel. Although reform of administration was urged by Edmund Burke in 1780, the modern public service, recruited on merit rather than patronage, can only be considered to have started from 1853 - M. Wright, *Treasury control of the permanent civil service 1854-1874*, p.xiii.

24. The major arguments have been collated and discussed by G. Martin, *The founding of Australia.*

25. R.G. Albion, *Forests and sea power.*

26. HRA 1/6/205, Cooke to Bligh, 11 Jan 1808; HRA 1/6/653, Foveaux to Castlereagh, 6 Sept. 1808.

27. HRA 1/4/248, King to Nepean, 9 May 1803.

28. HRA 1/4/152, King to Bowen, 28 March 1803.

29 J.B. Walker, *Early Tasmania*, pp.41-56.

Notes to Chapter 2

30. The stock of flour that Collins brought with them was husbanded carefully as further supplies from Britain were uncertain due to the hazards of the voyage and the resumption of the Napoleonic wars. Supply from Britain was further interrupted as stores were discharged at Port Jackson for subsequent colonial shipment to Van Diemen's Land. Some supplies of salt meat, meal and flour were obtained from New South Wales and Norfolk Island but frequently a large part of these was found to be rotten on arrival. The complaints were frequent. For example, a survey on 18 Aug 1804 (HRA 3/1/278-9) condemned 26,000 out of 63,000 lbs of pork and all of 140,000 lb of flour. Collins complained to Castlereagh (HRA 3/1/360 17 June 1806) to no avail and it seems likely that the worst and oldest of the stores in Sydney were sent to Collins (HRA 3/1/391, Bligh to Collins, 10 Sept 1807). Further supply was precluded by the disastrous floods that destroyed the New South Wales crops in 1806. A ship was sent to India for grain but was lost at sea and it was not until 1810 that a second ship returned with sufficient to break the threat of famine. J.B. Walker, *op.cit*, p.172.

31. HRA 3/1/363, Collins to Castlereagh, 10 May 1806; HRA 3/1/379, Collins to Bligh, 18 Oct 1806.

32. The farmers took advantage of the food shortage and combined in an attempt to force the price to six pounds a bushel but were only partly successful as Collins fixed a maximum price of four pounds. HRA 3/1/552, General Order, 7 Feb 1807.

33. The island was not finally evacuated until 1814, but was re-occupied in 1825. J.J. Auchmuty, '1810-30', *In* F.K. Crowley, *A new history of Australia*, p.49; J.B. Walker, *op.cit.*, p.167

34. J. West, *The history of Tasmania.*, vol.1, p.38.

35. HRA 3/1/xxix

36. J. West, *op.cit.*, vol.1, p.41.

37. *Ibid.*

38. J.L. Davies, *op.cit.*, p.69. Coal was mined at Port Arthur by the convicts from 1834 and elsewhere from the 1840's and 1850's, but it was not until the Fingal mines were opened in the 1880's that coal was at all plentiful. The rise of electricity usage in the 1920's and oil in the 1950's almost eliminated the use of wood as an industrial fuel.

39. R.M. Hartwell, *The economic development of Van Diemen's Land*, pp.156-60. Ships of up to 570 tonnes were built.

40. The 390 vessels constructed in Tasmania in the 20 years to 1859, including ocean-going ones, only averaged a carrying capacity of 60 tonnes - R.M. Hartwell, *op.cit.*, p.156. Examples of the

sizes of ketches used in the coastal trade are:-

	Good Intent	*Coral*
Weight (tonnes)	33	61
Length (m)	20.9	20.9
Beam (m)	5.3	5.7
Depth (m)	1.5	1.8

Source: Tasmanian Museum

The timber firm of Risby Bros ran a fleet of 14 sailing ships from Hobart in the 1880's which carried an average of 15,000 feet of log or approximately 46 tonnes.

41. Rev. Knopwood took a walk to the King's Pits on 27 July 1804. M. Nicholls, *Diary of Rev. Robert Knopwood.* The location is identified by C. Allport, *A page from the past.*

42. HRA 3/1/545, General Order, 23 July 1806 reduced the working hours of convicts to $3\frac{1}{2}$-$4\frac{1}{2}$ hours a day and instructed the timber carriage gang to bring in one piece of timber each working day which was presumably an equivalent labour. The transport difficulties are also mentioned in J.T. Bigge, *Report of the Commissioner of Inquiry into the state of the colony of New South Wales and Van Diemen's Land,* vol.1, p.43. The timber yard was set up some time prior to Bligh seeing it in 1809.

43. HRA 3/1/399, Collins to Castlereagh, 20 April 1808 - Collins was reduced to three carpenters and six pairs of sawyers. In Collins despatch to Hobart, 10 Nov 1804, (HRA 3/1/286) he regretted the loss of some sawyers and carpenters from scurvy. The total number of convicts available to Collins dropped from 279 in 1804 to 166 by 1810 from which servants were provided to the officers and labourers assigned to the settlers (HRA 3/1/xxvii).

44. HRA 3/3/239, Evidence Major Bell to Commissioner Bigge, 20 Feb 1820. Bell was Acting Engineer and Inspector of Public Works. He described the sawing station in detail and did not mention any bullocks for snigging.

45 CSO 1/17/291, Return of Artificers, Labourers, Cattle etc., Engineer's Office, 6 Nov 1826.

46. CSO 1/17/291, Principal Superintendent to Colonial Secretary, 30 Oct 1826.

47 CSO 1/17/291, Mr Hamilton (Colonial Secretary) letter of 11 Nov 1826, cited by Supt. Birch's Bay to Engineer 15 Jan 1828.

48 CSO 1/17/291, Supt. Birch's Bay to Engineer, 15 Jan 1828; Supt. Birch's Bay to Chief Police Magistrate, 5 July 1830.

49 CSO 1/17/291, Principal Supt. to Colonial Secretary, 30 Oct 1826.

Notes to Chapter 2

50 *Ibid,*

51. CSO 1/17/291, Civil Engineer to Private Secretary, 26 June 1829.

53. The Birch's Bay Establishment in a/c with H. Mjs. Government during the year 1828

Dr.	pounds	s	d
To 53 men being the average number employed each week during the year @ 7/6 each man per week	1,033	10	-
To 4 bullocks 52 weeks @ 7/- each per week	72	16	-
To Paid for 134,418 feet of timber cut by the sawyers in their own time at 5/- per 100 feet	336	0	10
To Paid for 321,000 shingles split by the labourers in their own time @ 4/- per 1 000	64	10	-
To Boatage 371,974 feet of timber @ 2/- per 100 ft	371	18	11
" 325,000 shingles @ 2/- per 1000	32	10	-
" 48 split posts @ 3d	-	12	-
" 120 split rails @ 2d	1	-	-
" 820 split palings @ 2/- per 100	-	16	6
To Superintendent's salary	75	-	-
" Rations for self and family	24	17	2
Balance Cr.	112	16	2
	2,127	3	9

Cr.	pounds	s	d
By 234,529 feet of timber cut by the Sawyers during the year as their Government work @ 8/6 per 100 feet	1 009	10	-
By 134,418 feet of Timber cut by the Sawyers in their own time for payment @ 8/6 per 100 feet	571	5	4
By difference between Birch's Bay and Hobart Town measurement of Timber, say 92,987 feet in favour of Birch's Bay @ 8/6 per 100 feet	395	3	10
By 321,000 shingles split by the labourers in their own time for payment @ 8/6 per 1000	136	8	6
By 48 Split Posts @ 1/-	2	8	-
By 120 " " @ 6d	3	-	-
820 " " @ 10/- per 100	4	2	-
800 " " @ 9/- per 100	3	12	-
4,000 " " @ 8/6 per 100	1	14	-
	2,127	3	9

53. CSO 5/239/6159, Principal Superintendent, 8 May 1840.

54. CSO 5/239/6159, Alex Cheyne, Office of Public Works, to Colonial Secretary, 16 June and 27 Feb 1841.

55. E. Genovese, *The political economy of slavery*, pp.43-69, has reviewed the poor productivity of slaves working on plantations in the US South in terms of: a limited diet which led to poor health; the primitive technology applied; the neglect of and the poor quality of tools used; and the inadequate skills of the slaves. Similar factors doubtless applied in Van Diemen's Land Oxley, for example, inspected the settlement at Port

Dalrymple in 1810 and remarked that in spite of having plenty of convicts and a host of overseers, the settlement had '... never raised corn enough for the convicts they so employed'. He recommended a factory to employ the women convicts in sewing garments but considered '... the value of their labour would not pay for their provisions, and cover the expense of providing the articles for manufacture, yet they would be kept out of harms way...' - HRA 3/1/758-777. E. Curr writing in 1824 estimated that convict labour produced less than one-third of free labour - *An account of the colony of Van Diemen's Land*, pp.9-10.

56. HRA 3/1/269, General order, 1 June 1804 - called a meeting of officers and settlers to fix wage rates which were published a few days later, HRA 3/1/270-1, General Order, 22 June 1804. As wages were commonly paid in commodities, the rates for meat and meal were set and a mark-up of 50 or 75% prescribed for any '... articles, tea, sugar etc purchased from shipping ...'

57 R.M. Hartwell, *op.cit.*, p.68.

58. J.T. Bigge, *op.cit.* The Bigge inquiry followed a parliamentary inquiry conducted in London in 1812 which recommended increasing assignment to reduce costs and the introduction of trial by jury.

59. HRA 1/10/4, Bathurst to Bigge, 6 Jan 1819.

60. J.D. Ritchie, *Punishment and profit*, p.220.

61. K.M. Bowden, *Captain James Kelly of Hobart Town.* Kelly's own account of his voyage in a five-oared whale boat was reprinted in PPLC 1881/75.

62. Hobart Town Gazette, No.16, 14 Sept 1816; HRA 3/3/356-7, Evidence T.W. Birch to Bigge, 29 Mar 1820.

63. HRA 3/3/17-20, Sorell to Goulburn, 12 May 1820.

64. J. Backhouse, *A narrative of a visit to the Australian colonies*, p.56.

65. J. West, *op.cit.*, vol.2, p.182.

66. CSO 1/134/3233, p.109, Wright to Sorell, 3 Jan 1822; CSO 1/13/264, p.203, Butler to Burnet, 30 June 1827; CSO 33/2/3563, p.630, Arthur to Gooderich, 24 Oct 1827; cited by W.M Edwards, *McQuarie [sic] Harbour.*

67. W.M. Edwards, *op.cit.*, Chap.10, citing CSO 1/553/12090 Report by Lord Brownell and Commissariat Officer O'Niell, 24 Dec 1831.

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McQuarie Harbour

Revenue 1831		pounds	s	d
Pine Logs	7,616 cu ft @ 2s 6d	952	0	0
Planks and boards	58,703 ft @ 2 ½ d	611	9	9
Shingles	20,000	9	18	0
Baskets, boots, panel doors		561	15	0
Total		2,135	2	9
Expenses of settlement 1830		7,963	1	2

68. J. West, *op.cit.*, vol.2, p.182.

69. Cited by J. Backhouse, *op.cit.*, p.51.

70. E.R. Pretyman, *Some notes on Maria Island and its penal settlements*; J.R. Morris, 'Early convict history of Maria Island'.

71. W.M. Edwards, *op.cit.*

Maria Island

Year	Revenue pounds	s	d	Expenses pounds	s	d		Profit/Loss pounds	s	d
1830	5,240	4	4	4,363	4	5	Profit	875	19	11
1831	3,284	0	0	4,536	0	0	Loss	1,252	0	0

72. CSO 1/17/219 Supt. Birch's Bay to Engineer, 12 Dc 1827 reported that two distant covered pits and 4,000 feet of timber were burnt but most of the timber stacks in the bush had been saved. Aborigines were suspected of starting the fire.

73. Lt-Governor to Colonial Secretary, 3 & 20 Dec 1827 & 1 April 1828; Walsh and Roberts to Colonial Secretary, 6 Feb 1828; cited by I. Brand, *Penal Peninsular*, pp.1-2.

74. J. West, *op.cit.*, vol.2, p.244.

75. *Hobart Town Almanack*, 1837, cited by I. Brand, *op.cit.*, pp.31-2.

76. Comptroller-General of Convicts to Lt-Governor, 1 Aug 1846, cited by I. Brand, *op.cit.*, p.82.

77. Commandant, Port Arthur, to Comptroller-General of Convicts, 10 Aug 1864, cited by I. Brand, *op.cit.*, p.159

78. I. Brand, *op.cit.*, pp.159-60. In 1864 for example an income of $112,000 a year was forecast from sales of sawn timber. Large poles and very heavy sawn pieces were also produced to order and were used to construct Melbourne's Hobson's Bay Railway.

Notes to Chapter 2

79. JHA 1866/13/27.

Expenditure by the Commissariat

Period	Average annual expenditure ($)
1828-29	199 391
1830-39	274 497
1840-49	493 008
1850-59	402 022
1860-65	156 391

NOTES TO CHAPTER 3

1. Colonial goods could only be carried to Britain in British shipping as the Navigation Acts prohibited vessels under 356 tonnes from trading between New South Wales (including Van Diemen's Land) and Britain. This effectively precluded small colonial ships. Even so, whale oil, for example, faced excessive tariffs if not carried in British shipping.

2. In 1807, Bligh acted to maintain Port Jackson as the principal port, and thus preserve the trade of established Sydney merchants by forbidding overseas vessels to discharge cargoes at minor ports. This meant that all goods had to be received and despatched through Port Jackson which effectively doubled their cost in Hobart.

3. J. West, *History of Tasmania*, vol. 1, p.69. T.W. Birch and Loane were early merchants. Kemp, Gatehouse, E. Lord and J.H. Reibey set up when the port was opened.

Wheat and meat exports to New South Wales 1815-1820

Year	Wheat (tonnes)	Salt meat (tonnes)	Value ($)
1815	48		1,770
1816	358	5	13,634
1817	415	4	15,640
1818	218	29	11,22
1819	676	157	42,108
1820	1,284	175	66,650

4. W.G. Rimmer, 'The economic growth of Van Diemen's Land 1803-1821'. *In* G.J. Abbott & N.B. Nairn, *The economic growth of Australia 1788-1821*, p.333; J. West, *op. cit.*, vol.1, p.51.

5. R.M. Hartwell, *The economic history of Van Diemen's Land*, p.193.

6. Lyndall Ryan, *The Aboriginal Tasmanians*, p.71.

Notes to Chapter 3

7. Total value of fisheries and export oil

Period	Average annual value ($)
1828-29	23,580
1830-39	120,370
1840-49	141,672
1850-59	89,430
1860-65	81,837

1828-49 from Hartwell, *op. cit.*, p.140; 1850-65 from *JHA 1866/27, Statistical summary of Tasmania from the year 1816 to 1865 inclusive,*

8. For Tasmania see: R.M. Hartwell, *op.cit.* and J. West, *op.cit.*

9. J. West, *op.cit.*, vol.1., p.72.

10. R.M. Hartwell, *op.cit.*, p.112.

11. *Ibid,* p.118.

Wool production and prices

Period	Average annual Production (tonnes)	Value ($000)	Average price ($/kg)
1828-29	329	58	0.18
1830-39	992	248	0.26
1840-49	1,093	424	0.39

12. HRA 3/1/500, 748, 777-778.

13. W.G. Rimmer, *op.cit.*, p.335. Such as 1215 hectares to Lt-Governor Davey when he retired, 486 hectares to the wife of Colonel Geils, and 405 hectares to Surveyor Evans.

14. R.M. Hartwell, *op.cit.*, pp.35-40.

15. Settlers were supposed to live on their grants for five years and develop them before they could acquire title and sell them. However these regulations were flagrantly flouted and land, developed and underdeveloped, sold openly from 1820; even location orders - which authorised land to be selected for a grant - could be bought. Many examples are given in A. McKay (ed.) *Journals of the Land Commissioners for Van Diemen's Land 1826-28.*

16. Based on official statistics in JHA 1866/27. R.M. Hartwell, *op.cit.*, p.48, has estimated that official statistics may underestimate the area granted by 28,736 hectares.

17. Edward Lord, who came as a Lieutenant of Marines with Collins in 1804, first received a grant of 40 hectares in 1806. In 1809 his grant was 202 hectares on which he ran 57 cattle and 131 sheep, and by 1821 he was reported to have estates of 14,175 hectares with 6000 cattle and 7000 sheep. M.W. Orr had built up an estate of 17,415 hectares by his death in 1843. R.

O'Connor, received a grant of 405 hectares on his arrival (with capital) in 1824. This was soon supplemented with a further 405 hectares. Within five years he had 1,296 hectares and then received another 810 hectares in recognition of his services as a Land Commissioner. From this start he was able to create an estate of 26,335 hectares by 1856. Others who owned large areas in the 1820's were T. Ansty, the Henty brothers and T. Archer who was attached to the Commissariat. HRA 3/1/568; R.M. Hartwell, *op.cit.*, pp.18,19; A. McKay, *op.cit.*, p.xx.

18. J. West, *op.cit.*, p.136, cites Holt's report in 1838 of the ease with which great landowners were able to buy small lots and clear their districts of the small settlers.

19. The assignment system has been widely described as slavery in W.D. Forsyth, *Governor Arthur's convict system*, for example, and was analysed as such by M. Dunn, 'Early Australia: Wage labour or slave society'. Dunn's analysis was refuted by P. McMichael, 'The genesis of settler capitalism in Australia', and R.W. Connell and T.H. Irving *Class structure in Australian history*, pp.77, because the persons of the convicts were never the property of their masters, their origin and destination lay in the proletariat, and their labour was obtained by an arrangement more akin to a lease.

20. W.D. Forsyth, *op.cit.* Ch.5; E. Curr, *An account of the colony of Van Diemen's Land*, p.71.

21. The initial settlements were almost exclusively male and it was not until 1813 that a substantial transfer of 200 female convicts was made. The masculinity (males per 100 females) provided in transportations made directly from Britain was: 626 and 687 in the 1820's and 1830's, and 296 and 273 in the 1840's and 1850's (overall - 1820-1859 - it was 421). This disproportion was aggravated by a similar disproportion in the officials and soldiers, and was most marked in the country districts as the females were mostly kept as domestic servants in the towns. As free immigration after 1816 was largely made up of family groups, the long-term natural reproduction of the population was assured. Births exceeded deaths from 1827 and the masculinity of the overall population gradually declined from 293 in 1830 to 179 in 1850 and 108 in 1900. W.D. Forsyth, *op. cit.*, Ch. 5 Appendix Two; JHA 1866/27, *Statistical Summary*; ABS, *Tasmanian Year Book*, 1979.

22. S.H. Roberts, *History of Australian land settlement 1788-1920*, p.44; P. Burroughs, *Britain and Australia 1835-1855*, pp.92-96. Arthur opposed the entry of more free labourers to the labour market in competition with emancipists and ticket-of-leave men. Employers feared that British parishes would send 'idlers and vagabonds' who would become a colonial liability, rather than the skilled and responsible workers they needed. Arthur made such extensive grants in anticipation of the

regulations, and by use of an exception clause, that little readily accessible land of good quality was left for sale. Sale arrangements were altered from time to time, the minimum price being increased from $1.24 per hectare in 1831 to $2.96 per hectare in 1838, and $4.94 per hectare in 1844 - a price that virtually stopped sales and hence pauper emigration.

23. C.D. Rowley, *The destruction of aboriginal society*; J. Bonwick, *The last of the Tasmanians*.

24. CSO 1/142/3433, George Meredith to Colonial Secretary, 2 June 1827.

25. CSO 1/142/3533 Colonial Treasurer to Colonial Secretary, 20 Dec 1826. R.M. Hartwell, *op.cit.*, pp.53-58. As an interesting forerunner of royalty negotiations a century later, we can note that the Treasurer recommended a rental of $0.10 per hectare but only $0.05 was charged!

26. The company indentured the workers it brought from Britain at low wages for seven years to recoup the cost of their passage. Not surprisingly the workers left the farms as soon as their indentures were completed - indeed many tried to escape beforehand, some being forcibly recaptured. The company's response was to recruit a second set of indentured workers at much lower wages '... so that the expense of sending out their families will soon be remunerated to the company ...'. J. West, *op.cit.*, vol.1, p.113; S.H. Roberts, *op.cit.*, pp.60-69, and Appendix 2 for later history of the company; J. Bischoff, *Sketch of the history of Van Diemen's Land, illustrated by a map of the island and an account of the Van Diemen's Land Company*.

27. The largest sale of 74,520 hectares of forest land, mainly at Surrey Hills, was made for the establishment of Associated Pulp and Paper Mills Ltd at Burnie in 1938 - see Chapter 6.

28. Sir Bede Callaghan has reported that emigration exceeded immigration for all inter-censal periods from 1881 to 1971 with the exception of 1947-1954 during which overseas migrants were compulsorily directed to hydro-electric, forestry and other post-war reconstruction projects. *Inquiry into the structure of industry and the employment situation in Tasmania*.

29. Within two years, fifty stations had been set up and a quarter of a million sheep shipped across Bass Strait. The early workers were almost all male ex-convicts brought from Van Diemen's land, and by 1841 probably comprised about 90% of the population. The 'Geelong and Portland Bay Immigration Society', formed by the squatters, brought some 400 men from Van Diemen's Land in 1845, and 500-600 in 1846. Between 1847 and 1849 about 3000 labourers left for Port Phillip. P. Burroughs, *op.cit.*, p.164; M. Kiddle, 'Vandemonian colonists in Port Philip 1834-1850'.

Notes to Chapter 3

30. Cited by B. Fitzpatrick, *The British Empire in Australia*, p.156. Increases in the male population are not shown in the official statistics until 1857.

31. *Ibid*, p.344. This was far from the last example of state concessions to capital development that failed to provide employment or benefit wage-earners.

32. A.P. Davidson, 'A skeleton in the cupboard: Master and Servant legislation and the industrial torts in Tasmania'. The first attempt at legislation in 1837 was disallowed in London and was replaced by 4 Vict. No.2, *Apprentices and Servants Act 1840*. The subsequent acts were:- 16 Vict. No.23 *Servants and Apprentices Act 1852*; 18 Vict. No.18 *Master and Servant Act 1854*; 19 Vict. No.28 *Master and Servant Act 1856*; 46 Vict. No.18 *Master and Servant Act 1882*; and 48 Vict. No.36 *Master and Servant Act 1884*. The 1854 Act was the most coercive *Master and Servant Act* in the Australian colonies. It provided punishments of solitary confinement for up to 30 days, imprisonment with hard labour for up to three months, fines of up to $40, and forfeiture of wages, for offences of being absent from work, refusing to perform a service, disobeying a command, not being diligent or careful with a master's property, being violent or abusive to a master or his family, being drunk at work, or 'other misconduct'. Penalties were most unevenly distributed, as the Act provided only monetary penalities for masters convicted of ill-treatment or non-payment of wages. About 90% of the 592 cases heard in 1855 were against employees who incurred punishments up to the maxima prescribed. The bias of the legislation was repeated in its application. Only 64 cases were heard against masters which secured payment of due wages but only imposed penalities of $2-$10 in 6 cases. By repeatedly laying charges just prior to quarterly wage payments, employers were relieved of expense whenever servants and labourers had their wages forfeited. Employees could be kept in effective bondage, for the Act forbade other masters to employ them and ordered them to return until a contracted period of employment was completed. As a result of working-class agitation, the punishments of solitary confinement and the imprisonment of females, and males under sixteen years, were removed and other provisions slightly relaxed in 1856. However the penal provisions and biased treatment were retained even after further amendments in 1882 and 1886.

33. R.M. Hartwell, *op.cit.*, p.165; P. Bolger, *Hobart Town*, pp.15-16.

34. P. Bolger, *op.cit.*, p.13; M. Steven, *Merchant Campbell*, p.202; W.G. Rimmer, *op.cit.*, p.333. The most prominent example is Lt Edward Lord, who built a warehouse in Hobart from which he traded long before he left the Marines. Another is William Collins, the first Harbour Master, who became a substantial merchant and acted, even if inefficiently, as an

agent for the Sydney merchant, Campbell. Other early merchants, such as Birch and Loane, did not originate from the official fraction but maintained close relations.

35. E. Curr, *An account of the Colony of Van Diemen's Land*, p.106.

36. Bank of Van Diemen's Land 1824, Derwent Bank 1828, Cornwall Bank 1828 - R.M. Hartwell, *op.cit.*, pp.170-172.

37. J. West, *op.cit.*, vol.1, p.89, notes a Scottish merchant company formed in 1823. R.M. Hartwell, *op.cit.*, pp.121-123, 172, 180, notes a British insurance company operating in Hobart from 1833 and Anglo-Australian banks formed in 1836 and 1838.

38. *Ibid*, pp.121-123.

39. *Ibid*, p.169.

40. J.T. Bigge, *Report of the Commissioner of inquiry on the judicial establishment of New South Wales and Van Diemen's Land*; J.D. Ritchie, *Punishment and profit*; J. West, *op.cit.*, vol.1, pp.53-65, 98; S.H. Roberts, *op.cit.*, p.43.

41. W.A. Townsley, *The struggle for self-government in Tasmania*, p.62.

42. R.M. Hartwell, *op.cit.*, pp.76-77, 95. For example, the wages of mechanics in Hobart dropped from $0.60 - $0.90 a day in 1840 to $0.45 - $0.60 in 1845.

43. W.A. Townsley, *op.cit.*, p.69-91.

44. For example, Samuel Crisp, a country sawyer transported in 1826 for stealing sheep and later joined by his family, saved enough to open a timber yard in Hobart. - P. Bolger, *op.cit.*, pp.18, 49. The business is now Crisp and Gunn Ltd.
Thomas Risby, a master boat builder was transferred from Norfolk Island in 1808 and built whale boats and ships on the Derwent; his son later (1844) set up a timber yard and sawmill - D. Brownlow, *Risby Bros Pty Ltd.*

45. Imports of timber over 20 cm square into Britain from Van Diemen's Land.

Year	Quantity (m^3)
1827	81
1828	278
1829	346
1830	1,012
1831	1,203

J. Bischoff, *op.cit.*

46. J. Fenton, *Bush life in Tasmania*, pp.163-164.

Notes to Chapter 3

47. M. Row, *The Tasmanian timber trade 1830-1930*, Appendix1.

48. J. Fenton, *op.cit.*

49. *Ibid*, pp.95, 60, 21.

50. *Ibid*, pp.43, 97.

51. K. Marx, *Capital*, vol.1, p.520.

52. *Ibid*, p.521.

53. *Colonial Times*, 10 Feb. 1846; *Britannia and Trades Advocate*, 1 Jan. 1846.

54. *Colonial Times*, 21 Sept 1849.

55. *Government Order* 10 of 27 Feb 1828 *In Hobart Town Gazette*, 1 March 1828.

56. CSO 1/732/15863/1, Surveyor-General to Colonial Secretary, 2 July 1834, proposed that fees should be imposed. The annotation reads:- 'His Excellency approves - but regrets the matter was not brought forward sooner'. CSO 1/732/15863/2, Surveyor-General to Colonial Secretary, 15 July 1834 recommended a rate of $0.25 per week but the Executive Council set $0.10 - CSO 1/732/15863/3, Memo. Lt-Governor to Colonial Secretary, 14 Oct 1834: LSD 1/64/?, Colonial Secretary to Survey-General, 29 Oct 1834; CSO 1/732/15863/3.

57. CSO 1/732/15863/4, Chief Police Magistrate to Colonial Secretary, 30 Oct 1834.

58. CSO 1/732/15863/5, Surveyor-General to Colonial Secretary, 30 Oct 1834.

59. LSD 1/32/548, Police Constable G. Palmer, Bicheno, to Surveyor-General, 6 August 1838.

60. S. Bennett & B. Bennett, *Biographical Register of the Tasmanian Parliament 1851-1960*; LSD 1/32/526, 528, R.C. Gunn to Surveyor-General, 1 May 1850, 9 June 1851.

61. LSD 1/64/1 J. Archer to Surveyor-General, Dec 1848.

62. LSD 1/32/530-2, Surveyor-General to Colonial Secretary, 2 Aug. 1850.

63. J. Fenton, *op.cit.*, pp.21-22, 164.

64. LSD 1/32/498, Colonial Secretary to Surveyor-General, 27 June 1849. LSD 1/64/17 Colonial Secretary to Surveyor-General, 19 Dec. 1848, details Laffers' appointment.

NOTES TO CHAPTER 4

1. E.J. Hobsbawm, *The age of capital, 1848-1875*, pp.36-37.

2. *Ibid*, p.32. Between 1850 and 1880, the length of railways increased by almost ten times, but of this increase 286,000 km were built in Europe and North America compared to only 26,000 km in the rest of the world

3. B.R. Mitchell, *Abstract of British historical statistics* The 4.6 million who emigrated are not included in the census figures.

4. The value of agricultural output in Britain *increased* from $436 to $502 million between 1840 and 1887 but employment *decreased* from 3.4 million to 2.5 million - J. Hobsbawm, op.cit., p.311.

5. By the end of the 1870's, the minimum age of employment in textile mills had been increased to ten, the maximum adult hours reduced to 57 weekly, and some safety regulations laid down for the most dangerous occupations. Craft unions were established among skilled workers from the 1850's and unions were legalised in 1871-76, which resulted in their becoming widely recognised by employers as the workers' bargaining agencies.

6. P. Koch, 'History of wood machinery'. Bentham's patents of 1791 and 1793 included planing and moulding machines; the first practical one with a rotating head was not available until 1850.

7. M.P. Bale, *Woodworking machinery*, (1880) p.16.

8. A.G.L. Shaw, *Convicts and colonies*, pp.350-8. The last convict ship to Van Diemen's Land left in 1852 and arrived in 1853, and the last to Western Australia left in 1867 and arrived in 1868.

9. From 1853 to 1880 - C. Snow, 'Migration from Great Britain'. Between 1851 and 1881 an estimated 8.8 million left Europe for new lands - most America.

10. R.V. Jackson, *Australian economic development in the nineteenth century*, pp.29-31.

11. W.A. Sinclair, *The process of economic development in Australia*, pp.79-86; R.V. Jackson, *op.cit.*, p.67, reviews different estimates of the rate of growth in the value of the wool clip (made by N.G. Butlin and A. Beaver) and shows that although they differ significantly, they reveal the same trends toward a declining rate of increase.

12. N.G. Butlin, *Investment in Australian economic development 1861-1900*.

Notes to Chapter 4

13. *Ibid*, p.29, estimated at market prices. Western Australia excluded prior to 1868.

Domestic capital formation and overseas borrowing 1861-1880

Period	Gross domestic capital formation ($ million)	Net overseas borrowing ($ million)
1861-65	79.0	44.8
1866-70	90.6	36.8
1871-75	137.4	6.0
1876-80	225.0	44.0
Total	532.0	131.6

14. *Ibid*, p.22.

15. N.G. Butlin, *Australian domestic product, investment and foreign borrowing 1861-1938/39*, p.266, provides estimates of capital formation by house construction for each State which reveal large fluctuations from year to year in Tasmania's main markets for timber.

16. Capital city populations from J.W. McCarty, 'Australian capital cities in the nineteenth century'. Other statistics from N.G. Butlin, *Investment in Australian economic development*, pp.220-221. The large number of temporary dwellings have been omitted from Table 4.1 as, being made mostly of canvas, bark or mud, they are unlikely to have had any effect on the Tasmanian timber trade.

17. T.H. Iving, '1850-1870', *In* F.K. Crowley, *op. cit.*, pp.148-150.

18. *Ibid*, pp.146-7.

19. *Statistics of Tasmania, Statistics of the Colony of Victoria.* Average values. Medians taken where ranges cited.

20. *Statistics of Tasmania*; metropolitan populations from McCarty, *op.cit.*

21. W.A. Townsley, *The Government of Tasmania*, p.68. Franchise requirements for the House of Assembly were: possession of $200 freehold, a salary of like amount, householder rental of $20 a year, or professional qualifications. For the Legislative Council, $100 freehold or professional qualifications were required. In comparison a farm labourer earnt $1 a week with rations, or a carpenter $0.70-0.80 a day without.

22. The *Rural Municipalities Act* was passed in 1858.

23. H. Reynolds, ' "Men of substance and deservedly good repute": the Tasmanian gentry 1856-1875'.

Notes to Chapter 4

24. Police force strengths

Year	Municipal police	Territory of police
	Numbers of men	
1861	116	214
1866	198	105
1874	192	80

Statistics of Tasmania. Municipal police forces varied from 5 men (Bothwell and Brighton) to 40 (Hobart). The Territory (ie. State wide) police force was mostly posted to the rural police districts.

25. H. Reynolds, 'Men of substance...', *op.cit.*

26. Anthony Trollope, *Australia and New Zealand.*

27. H. Reynolds, '"That hated stain": the aftermath of transportation in Tasmania'.

28. *Statistics of Tasmania.* The value of Tasmanian exports was: 1860 $1,924 million; 1870 $1,296 million; 1879 $2,602 million.

29. N.G. Butlin, *Investment in Australian economic development,* p.229.

30. J. Reynolds, *Launceston,* pp.105-7; *Tasmanian Year Book,* 1979.

31. *Statistics of Tasmania.*

32. The first proposal to build a sawmill was made in 1818 by Messrs Florence and Barnard who wanted to cut stands of Huon Pine that had just been discovered at Port Davey and Macquarie Harbour. Their application was refused as Sorell wanted Macquarie Harbour for a penal settlement. At the same time Sorell did not extend the concession to cut Huon Pine at Macquarie harbour that had been granted to the merchant T.W. Birch (in recognition of his sending a small expedition, led by James Kelly, to the south-west coast in 1815) - HRA 3/2/334-5, Sorell to Macquarie, 29 June 1818; HRA 3/2/352, Macquarie to Sorell, 24 Sept 1818.

Equipment for the first sawmill was brought out from England by two immigrants, Peter Degraves and his brother-in-law Major McIntosh. They had secured the 'favourable notice of the British government', expressed in a letter of recommendation to Arthur who granted them 800 acres [320 ha] of forest on the slopes of Mount Wellington in an area known as the Cascades. An overseer and 20 convicts were supplied to clear the site and dig a race that brought water to power the mill. Degraves and McIntosh brought very little other capital, but after initial difficulties managed to run the mill profitably enough to accumulate capital for other ventures. Cecil Allport, *A page from the past.*

The second sawmill was probably that built on Dr Gaunt's property (by Gaunt ?) on the Tamar River in the north of the colony. It was powered by the first steam engine (12kW) in the north which drove both frame and circular saws. *Launceston Advertiser*, 26 Jan 1837. It probably operated for only a few years.

A third sawmill (water-powered) is recorded from 1828. *Statistical returns for Van Diemen's Land 1824-39.*

The fourth sawmill was 'The Franklin Wharf Steam Sawmill and Bark Mills', built by the Risby family in 1844. The capital for this must have been accumulated in the flourishing boat-building business of the emancipist, Thomas Risby. His son, J.E. Risby, ran the mill and operated as a timber merchant supplying the local demand in Hobart. The origin of the mill has been ascribed to J.E. Risby but he was only 18 in 1844 when the mill was opened. It is assumed that the capital accumulated by Thomas Risby financed it. D. Brownlow, *Risby Bros Pty Ltd*

33. The value of timber exported was recorded as : 1837-39 $54,984, 1840-49 $293,436. No classification between sawn, split and other products is available prior to 1854. The earliest classifications, in 1854 and 1857-59, show that sawn timber comprised 50% of the value of timber exports. M. Row, *The Tasmania timber trade 1830-1930.*

34.

Year	Number of sawmills	Year	Number of sawmills
1850	2	1869	18
1853	7	1874	26
1855	22	1879	52

Statistics of Tasmania.

35. Wage rates for selected occupations 1870's

Year	Daily rates (s/d)			Index
	Carpenters	Millers	Day Labourers	(Mean 1870=100)
1861	8/8	n.a.	n.a.	
1865	7/4	n.a.	n.a.	
1870	7/1	5/11	4/7	100
1	6/9	6/-	4/2	96
2	6/10	6/4	4/5	100
3	7/1	6/5	4/6	102
4	7/6	6/6	4/10	107
5	7/7	6/11	4/11	110
6				
7	8/1	6/4	5/2	111
8	8/1	6/9	5/1	113
9	7/10	7/10	5/1	113

Statistics of Tasmania, Fractions of pennies ignored.

36. See note 34.

Notes to Chapter 4

37. M. Row, *The Tasmanian timber trade.* The category 'hewn, logs, etc.' includes piles, beams, logs and pieces (shaped and bent). Average annual values for 'sawn', 'split', and 'hewn, logs, etc' for the period 1855-59 were calculated from the years 1857-59 only.

38. *Statistics of Tasmania.* Average number of hands and average capital calculated on 59 mills, average value of sawn timber on 56 mills.

39. *Ibid.*

Sawmills classified by municipal and police districts

Year	Hobart	Launceston
1861	3	4
1881	4	5

40. J. Fenton, *Bush life in Tasmania,* pp.89, 106-109; C. Ramsay, *With the pioneers,* pp.62-71, 102-114, 135, 206-208; J.R. Skemp, 'Early development of Devon'. R. Pike, *Pioneers of Burnie,* p.68; P.G. Mercer, *Gateway to progress,* pp.23-24, 44.

41. H.M. Whittington, 'The timber industry on the Huon'.

42. Wells & Leavitt, *The Jubilee history of Tasmania,* pp.7-8; S. Stewart, 'Development of Launceston and J. & T. Gunn', Mss., pers. comm.; D. Brownlow, *op.cit;* Newspaper cuttings and scrapbooks kept by Risby Forest Industries; P. Bolger, *Hobart Town; Mercury,* 5 July 1924.

43. *Statistics of Tasmania,* 1870. In the 1870 census, 'sawyers' and 'sawmill owners' are shown separately. Sawmill workers were probably included under general labourers. In the 1881 census an overall class of 'sawyer, sawmill owner, worker' is used which appears to continue to recognise sawyers as manual workers outside sawmills. *Bailliere's Tasmanian Gazeteer* (1877) notes 7 districts where pit sawing was being conducted: Castra, Cygnet Port, Franklin, Gordon, Kettering, Oyster Cove and Snug River.

44. JHA 1862/14, Mr Tully, *Huon tramways.*

45. JHA 1862/13, J.E. Calder, Surveyor-General, *Port Esperance and Southport.*

46. JHA 1862/14, *op.cit.*.

47. JHA 1871/84, *Petition for the reduction of licence fees of sawyers and splitters* - there were 269 signatures.

Notes to Chapter 4

Fees were:	
licences to cut timber	$0.25 per week per man
persons cutting for a sawmill	$0.50 " " " "
carters using government slab roads at Esperance and Southport	$0.26 " " " "
and where more than 2 horses used for a cart or dray	$0.50 " " " "

48. *Government Notice* 173, 16 Dec 1873.

49. JHA 1856/67, *Waste Lands Bill*, Report of Select Committee; 21 Vict.33, *Waste Lands Act, 1858*

50. LSD 1/64/569, A. Graham, Warden of Sorell, to Surveyor-General, 16 May 1861, noted that '...Many leases of Crown Land claim the right to all timber on it and will not allow persons with sawing or splitting licences on to their runs...'

51. JHA 1867/35.

52. LSD 1/32/60, letter J.E. Risby, 4 Oct 1860.

53. The LSD series files contain a mass of correspondence generated by this system; some examples for 1864 can be found in LSD 1/64/613-27.

54. In Northern Tasmania, William Moore, of Moore and Quiggin, became MHA (1871-77), MLC (1877-1909), and was at various times Minister of Lands and Works, Colonial Secretary and President of the Legislative Council. Dr W.L. Crowther, with mills on the Huon, became MHA (1866), MLC (1869-85) and briefly Premier (1878-79). Dr W. Crooke, who entered into a tramway partnership in the Huon district, was MLC (1855-56) and MHA (1856-57). J.E. Risby, who ran the Franklin Wharf sawmill in Hobart, became MHA (1877-82). S. Bennett & B. Bennett, *op.cit.* C. Ramsay, *op.cit.*, Appendix. C. Fenton, *op.cit.* gives several accounts of how road trusts operated.

NOTES ON CHAPTER 5

1. Lenin, in his essay 'Imperialism the highest stage of capitalism' written in 1917, considered that the peak of the competitive stage, reached in 1860-70, was followed by a transitionary period that lasted from the economic crisis of 1873 to 1900-03, by which time '... Cartels become one of the foundations of the whole economic life. Capitalism has been transformed into imperialism ...'. *In* V.I. Lenin, *Selected works*, p.181.

2. E.J. Hobsbawm, *Industry and Empire: an economic history of*

Britain since 1750, p.110.

3. Austria, Russia and Spain increased tariffs in 1874-77. Germany passed an important tariff law in 1879 which was followed by increases in Italy in 1887 and France in 1892, while the US which had generally increased tariffs since 1816 continued to do so. *Ibid*, p.113; T. Kemp, *Historical patterns of industrialisation*, pp.102-104; D.S. Landes, *The unbound Prometheus*, pp.244-245.

4. T. Kemp, *op.cit.*, p.102.

5. E. Mandel, *Marxist economic theory*, pp.401-402.

6. William Lever, later Lord Leverhulme (1851-1925), cited by Mandel, *Marxist economic theory*, p.399.

7. E. Mandel, *Marxist economic theory*, p.403-406.

8. I. Turner, *In union is strength*, p.31.

9. L.S. Woolf, 'Imperialism'.

10. E. Mandel, *Late capitalism*, pp.186-188.

11. By 1885, Britain had 4 million tonnes of steam ships registered and 3.4 million tonnes of sailing ships - L. Girard, 'Transport', *In* H.J. Habakkuk, and M. Postan, *Cambridge Economic History of Europe*, vol.6(1), p.267.

12. *Ibid* - The world average size of ship in 1873 increased to 1,611 tonnes by 1898. For example the freight on wood fell 50% between 1873 and 1896 - P. Cochrane, *Industrialisation and dependence*, p.19. Comparative freights on timber have not been located prior to 1928:

Sea freights on timber c.1928

Route	Average cost ($ per m^3)
Tasmanian ports to Melbourne	2.22 - 2.44
Baltic " " Australia	1.87
American " " "	2.54

C.E. Lane-Poole, 'Hardwoods and their markets (Australia)', *Proc. 3rd British Empire Forestry Conference*, 1928, pp.97-140.

13. For example, North America was linked east to west by several lines in the 1880's and the Trans-Siberian line was completed in 1903. L. Girard, *op.cit.*, p.251.

14. D.S. Landes, *op.cit.*, p.221. Approximate estimates of the world capacity of all steam engines are cited as:

Year	Capacity (kW 000)
1840	1,231
1860	6,997
1880	25,476
1896	88,606

15. *Ibid*, p.281.

16. *Ibid*, pp.281-286.

17. *Ibid*, p.259. Production rose from 0.39 million tonnes in 1870 to 32 million tonnes by 1913.

18. P. Koch, 'History of wood machining'; C. Singer, *A history of technology*, p.437; B. Thunell, 'History of wood sawmilling'; G.R. Wilkins, 'History of circular saws'.

19. For example, after the introduction of electolytic manufacture in 1890, world aluminium production increased from 40 tonnes in 1886 to 743,600 tonnes by 1946.

20. T. Kemp, *Historical patterns of industrialisation*, p.106.

21. '... a great opening battle for the construction of a real merit system...' occurred in the USA when Congress passed the Civil Service Act in 1883 - E.N. Gladden, *A history of public administration*, vol.2, p.318. In Britain, a series of improvements in imperial and internal administration were made from 1853-54 on - E.N. Gladden, *Civil services of the United Kingdom*, pp.19-30.

22. Cochrane, P., *op.cit.*, pp.8-10, 32-6.

23. The debate is partially reviewed by W.A. Sinclair, *The process of economic development of Australia*, pp.15-18, who (while acknowledging the importance of domestic manufacturing and construction as stressed by N.G. Butlin) emphasised the leadership of exports in promoting economic growth. Subsequently, R.V. Jackson, *Australian economic development in the nineteenth century*, focussed primarily on events within Australian in his account of development. P. Cochrane, *op.cit.*, like B. Fitzpatrick, *The British empire in Australia*, placed Australian development within the imperial context and has examined many of the links between external and internal factors. E.A. Boehm, *Prosperity and depression in Australia 1887-1897*, dealing only with a short period, was able to show the important differences between States and sectors.

24. Notable finds were a rich lode of tin at Mt Heemskirk in 1879, silver and lead near Zeehan in 1882, gold in several places and above all large deposits of copper at Mt Lyell in 1883 and zinc-lead at Roseberry in 1893. *Tasmanian Year Book*, 1971, 1976.

Notes to Chapter 5

25. G. Blainey, *The peaks of Lyell*, p.164 *et passim.*

26. HRA 3/4/356-7, Evidence T.W. Birch. Birch received an *exclusive* permit to cut Huon Pine for 1 year as a reward for having sponsored Kelly's voyage of discovery to Port Davey and Macquarie Harbour - See Chapter 2.

27. Apart from a scheme which provided lighting for Launceston in 1895, the initial schemes were developed (1895-1914) by the mining industry to meet local needs. (The Mt Lyell Company generated its own hydro-electricity from 1914 to replace the huge quantities of firewood consumed by the smelters). The possibility of a large scheme was first put forward in 1897 by JHA 1897/59, Engineering Inspector of the Central Board of Health (A. Mault), *Water-power of the Great Lake.* A proposal in 1899 from the Electric Bay and Ore Reduction Company to use the waters of the Great Lake to generate electricity and link Hobart to the west coast by rail came to naught. Interest renewed after federation. See for example, R.E. MacNaughten, 'Tasmania as a manufacturing centre'. Interest was reactivated by Professor McAuley from the University of Tasmania in 1905. In 1906 the Collins Home group, through a subsidiary company, the Hydro-Electric and Metallurgical Company commenced building the Wadammana Scheme in 1911. (The enabling legislation was 9 Ed. VII (Private), *Complex Ores Act, 1909*). However they pulled out, and the government bought and completed the works. K.M. Dallas, 'Water-power in Tasmanian history'; F.C. Green, 'Hydro-electric development in Tasmania'. JHA 1914/9&10, 'Hydro-electric Power and Metallurgical Company Limited', Report by E. Parry; Agreement between government and company. The First World War caused Collin Home to change their minds and build the zinc refinery after all. 'Electrolytic Zinc Company of Australia Limited', *Tasmanian Year Book*, 1971; P. Cochrane, *op.cit.*, p.79. The State agreed to provide electricity very cheaply which as the eminent Sir Nicholas Lockyer was to observe to the Commonwealth showed '... singular work of wisdom in commiting the State to the supply of electrical power at under cost price (64% under) for a period of 40 years ...' - JPP 1926/53, *Report of Sir Nicholas Lockyer on 'The case for Tasmania'.*

28. E.A. Boehm, *op.cit.*, p.242-3.

29. S.C. Bennett, *The making of the Commonwealth*, p.23. B.K. de Garis, '1890-1900', *In* F.K. Crowley, *A new history of Australia*, p.249 *et passim.*

30. H. Reynolds, *The island colony*, pp.205,210.

31. G. Blainey, *The peaks of Lyell*, pp.189-203.

32. W.G. Spence, *History of the A.W.U.*, p.115.

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33. The Southern Tasmanian Political Reform Association was formed in 1887, the Political and Municipal Reform Association in 1890, and the Tasmanian Reform League in 1897 - H. Reynolds, *The island colony.*

34. C.I. Clark, *The Parliament of Tasmania*, pp.42,62.

35. W.A. Townsley, *The Government of Tasmania*, pp.54-55.

36. M.D. McRae, 'Some aspects of the origins of the Tasmanian Labour Party'.

37. R.P. Davis, 'Tasmania', *In* D.J. Murphy, *Labor in politics*, pp.397-399.

38. *Ibid*, pp.404,417; M.D. McRae, 'The Tasmanian Labour Party and trade unions, 1903-1923', *Pap. & Proc. Tasmanian Historical Research Association*, vol.5, April 1956, pp.4-13.

39. Estimates of the number of sawmills built in each decade were made from annual returns in the *Statistics of Tasmania* and can not be derived directly from the decennial averages in Table 5.1.

40. *Statistics of Tasmania.* Annual volume of timber sawn from 1902 only. Average power from 1885-1892, and 1898 on.

41. *Ibid.*

42. *Ibid.*

43. LSD, *Annual report*, 1912-13. Apple production increased from 7,000 tonnes in 1890-91 to 28,000 tonnes by 1920-21 - *Tasmanian Year Book*, 1980.

44. M. Row, *The Tasmanian timber trade; Statistics of Tasmania.*

45. *Ibid.*

46. Average annual imports of timber into New Zealand ex Tasmania

Period	Sawn timber		All timber products
	Quantity (m^3)	Value (pounds NZ)	Value (pounds NZ)
1900-02	7,603	16,762	21,279
1903-09	8,829	19,706	23,776
1910-13	7,729	19,730	27,088
1900-13	8,255	19,082	24,187

Statistics of New Zealand.

47. Official correspondence about the sleeper trade mainly referred to South Africa - eg. LSD 6/426m, Conservator of Forests, Capetown, to Survey-General, 6 Nov 1903, and H.E. Day to

Minister of Lands and Works, 3 March 1903. It was even pursued by the Premier in writing to the Prime Minister of Natal, 16 Mar 1903, with replies 7 Oct 1903 and 5 Dec. 1905. Tasmanian sleepers were also sent to Egypt, India and China in a trade organised through London - eg: LSD 6/6346m, H. Jones to Secretary for Lands, 11 Jan 1909. There was much less official corespondence about trade with Britain, and it was mostly concerned with smaller items - such as the spokes for gun carriage wheels - or requests for timber samples.

48. Sawn timber 1902-1909: average annual production - 88,163m^3, average exports - 45,815 m^3. *Statistics of Tasmania.*

49. Estimated cutting of mills South of Hobart

Largest mill (McDougallBros, Recherche)	94 m^3/week
Gray Bros., Adventure Bay	37 " "
J. Geeves, Geeveston	59 " "
Average of 11 mills	59 " "

LSD 6/9227e, Charles Dearden, Timber Inspector, to Surveyor-General, 15 Dec 1897. *Mercury*, 8 June 1903; *Cyclopedia of Tasmania*, vol.1, p.587.

50. Rev. J.E.T. Woods, 'Tasmanian forests: their botany and economical value'.

51. W. Epps, *Land systems of Australasia* (London, Swan Sonnenschein), 1894, p.59.

52. *Ibid.*

53. JHA 1875/77, George Innes (District Surveyor, Franklin), *Report*, Huon, 6 July 1874.

54. *Ibid.*

55. JHA 1875/80, Huon Sawmill Owners, *Petition for amendment of land laws.*

56. JHA 1878/132, *Report from the Select Committee to inquire and report upon the necessary steps to be taken for the Preservation from utter destruction of the valuable indigenous Forest Trees known as Huon Pine and Blackwood.*

57. 45 Vict.5, *The Waste Lands Amendment Act, 1881.*

58. LSD, *Annual report*, 1884.

59. JPP 1887/59, Conservator of Forests, *Woods and Forests of Tasmania*, 1886-7; JPP 1889/80, Conservator of Forests, *Annual report*, 1889.

60. 49 Vict. 36, *The State Forests Act*, (1885).

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61. 54 Vict. No. 8, *The Crown Lands Act, 1890.*

62. 59 Vict. 31, *The Crown Lands Amendment Act, 1895* was altered by 64 Vict. 21, *The Crown Lands Amendment Act, 1900,* to permit leases not exceeding 100 acres [40 ha] for no longer than 10 years. LSD, *Annual report,* 1895.

63. LSD, *Annual report,* 1896.

64. Significant developments were: the discovery of gold in the Transvaal in 1886, the formation of Rhode's British South African Railway Company in 1889 at the Natal-Transvaal Railway agreement of 1895. M. Row, *The Tasmanian timber trade,* appendix 4A. Tasmania had 3.8% of the Australian timber export trade 1898-1900.

65. LSD, *Annual report,* 1898-1899.

66. The trade was probably more significant ideologically and photogenically than economically, although it was important to some businesses such as the Gray Bros who promoted it well by printing a booklet written by D.W. Lewin, *The eucalypti: hardwood timbers of Tasmania.*.

67. LSD 6/1770c, A.G.D. Bernacchi, Commission and Finance agent of Hobart to Secretary for Lands, 2 March 1897. In the event the sawmill never eventuated and the cement works was not built until 1924 and then only operated for 5-6 years - E.R. Pretyman, *Some historical notes on Maria Island and its penal settlements,* p.29.

68. 62 Vict.38, *The Crown Lands Amendment Act, 1898.*

69. *Government Notice* 347, 25 Nov 1898.

70. *Government Notice* 59, 20 Jan 1899.

71. *Government Notice* 210, 21 June 1900.

72. JPP 1901/70, Report of Select Committee on *The Geeveston Tramways and Timber Leases Bill, 1901 (Private);* 1 Ed.VII (Private), *The Geeveston Tramways and Timber Leases Act;* M. Row, 'The Huon Timber Company and the Crown'.

73. JPP 1902/44, Report of Select Committee on *The Tasmanian Timber Corporation Bill, 1902 (Private);* 2 Ed.VII (Private), *Tasmanian Timber Corporation Act, 1902;* LSD 6/111h, General Manager, Tasmanian Timber Corporation Ltd, to Minister Lands and Works, 21 April 1902; LSD, *Report 1900-01.*

74. LSD 6/9490f, Surveyor-General to Minister for Lands, 8 June 1900; *Government Notice* 210, 21 June 1900.

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75. LSD 6/6346m, H. Jones to Minister for Lands and Works, 15 June 1908, gives a better estimate of the company's expenditure:

Assets	Value ($)
Log getting and hauling machinery	4,442
Tramway capital and construction	26,352
Rolling stock and locomotives	5,702
Sawmill machinery	13,546
Wharf and jetty	4,476
Buildings	9,438
Miscellaneous	19,378
Sub-total	89,840
Properties Leasehold	25,154
Properties Freehold	5,800
Total	170,794

The balance sheet appears to have valued the assets (excluding properties) at cost, but placed greatly inflated values on the freehold properties.

76. The purchasers were reported to be an Indian syndicate, but in the usage of the time this is taken to mean British capitalists who had accumulated their wealth in India. In 1902, the head office of the Tasmanian Timber Corporation was at 85 Gracechurch St., London, EC. - LSD 6/4457h, letterhead 1902. By 1907, the head office of the Tasmanian Hardwood Corporation was at 27 Austin Friars, London, EC - LSD 6/8704p, letterhead 1907. The balance sheet at 31 March 1908 for the Tasmanian company shows liabilities of $141,870 to the Tasmanian Timber Corporation Limited 'Purchase Account' and $20,868 pounds to the Tasmanian Hardwood Corporation Ltd, London - LSD 6/6346m, H. Jones to Minister for Lands and Works, 15 June 1908.

77. Mary Calder, *Big Timber Country*, pp.70-80. Millars bought the Huon Timber Company in which $210,000 had been spent for $73,500 and the Tasmanian Hardwood Corporation in which about $100,000 had been spent for $20,000.

78. The International Exhibition held in London in 1862 provided an opportunity for the recently independent Tasmania to show off the plenty and quality of her resources to the 'Mother Country'. Parliament appointed worthy Commissioners to mount the state's exhibits. They gave prominence to timber and showed large specimens of planks and ships timbers as well as wooden manufactures and a whale boat. Although '... their efforts were almost continuously directed to ... bringing ... the almost unlimited supply of hard woods in the Tasmanian forests ... under the notice of ship-builders and others ...', their large samples were badly cracked not having been seasoned prior to shipping. At the exhibition '... unfortunately the ... ship's knees and old timbers seem to have been hidden ... within a high screen ...' and it is hardly surprising that little new trade was forthcoming! Other promotional attempts were made in London such as that by Braddon, as Tasmania's second Agent-

General, who in 1889 had several timbers tested by a London cabinet maker and the results reported in a scientific journal. JPP 1864/13, *International Exhibition Commission: Report of Commissioners.* E.N.C. Braddon, 'Tasmania: its resources and prospects'. The test results were published in the *Bulletin* of the Royal Botanic Gardens, Kew, May 1889.

79. LSD 6/426m, H.E. Day to Minister for Lands, 3 March 1903, *et passim.*

80. A.O. Green, (comp.), *Tasmanian timbers: their qualities and uses,* 1st edn. 1905, 2nd edn. 1910, etc.

81. The problem was an enduring one and a Select Committee heard reports of poor timber being sent to Britain as early as 1833 '. ... which quite condemned our colony for good timber.' JHA 1875/96, *Report of Select Committee on Indigenous Timber.* Repeating an old complaint, the Select Committee also railed against short counts in bundles of shingles.

82. LSD, *Annual report,* 1905; a circular describing the scheme was probably issued on 12 May 1905.

83. LSD 6/6346m, Gray Bros to Secretary for Lands, 19 Sept 1909, *et passim,* details the rejection of 3,500 spokes for gun carriage wheels from a shipment to the British Royal Arsenal at Woolwich.

84. LSD 6/6346m, Correspondence H. Chesterman and Surveyor-General, 17,25,30 May 1905.

85. *Ganges timber shipment; the story told by official papers laid on the table of the Tasmanian House of Assembly,* a series of articles reprinted from the *Daily Post,* June 1910.

86. LSD, *Annual report,* 1903-1918/19.

87. Official correspondence on seizures is voluminous, but most cases were handled in a routine manner. For some unusual examples see: LSD 6/9248f fo the case of Robert Godfrey caught in 1900 cutting shingles and slabs to rebuild his house destroyed in a bush fire - his timber was seized but released on compassionate grounds when he paid his fees; LSD 6/3721f for the case of Nicholas Blackaby caught in 1899 cutting timber for a bridge - the timber was seized but subsequently released as the bridge was a public one; LSD 6/3489f for a batch of 200 rails and 25 posts seized in 1899 and advertised for sale in the *Gazette* and press - initial tenders received were too low and fresh ones were called for.

88. LSD 6/4000m, Chief Forest Officer to Secretary for Lands, 1 Aug 1904.

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89. LSD 6/4000m, Crown Lands Bailiffs, West Strahan, to Secretary for Lands, 30 Sept 1904.

90. LSD 6/4000m, Crown Lands Bailiff, West Strahan, Monthly report for Nov 1904 for the case of a seized log 'disappearing'; *Tasmanian Government Gazette* 18 Oct 1916, and FC1, correspondence 25 Oct, 9, 28 Nov 1916, for case of 750 cubic metres of seized Huon Pine and Blackwood logs 'disappearing'.

91. Estimates of revenue due can be made by extending the records of the areas leased by the rate of $0.05 per hectare; G.J. Rodger's report, 'Forest Survey in Tasmania', *Proc. 3rd British Empire Forestry Conference*,, p.832, makes the comparison for the 1902-1927 period.

92. *Government Notice* 347 of 25 Nov 1898; LSD, *Annual report*, 1917-18; FC 17, Minute for Executive Council, 30 Aug 1929.

93. *Government Notice* 210, 21 June 1900; *Government Notice*, 10 Jan 1905; LSD, *Annual report*, 1905.

94. LSD, *Annual report*, 1903.

95. LSD, *Annual report*, 1907, Report by the Chief Forest Officer.

96. LSD, *Annual report*, 1903.

97. *Ibid*; 2 Geo.V No.64, *The Crown Land Act, 1911*.

98. For example, see LSD 6/7648g, Tasmanian Produce and Cool Storage Company to Surveyor-General, 7 Nov 1901, which cites the example of a small mill which cut out its site in 15 months. By the 1920's the smallest case mills may have only worked for periods as short as 3 months before being moved.

99. The first official advocacy was by G.S. Perrin when he was Conservator of Forests (1886-88) - JPP 1887/59, *Woods and Forests of Tasmania*, and JPP 1887/60, *Sawmill reservation*. The next official reports were: JPP 1898/48, E.A. Counsel, Surveyor-General and Secretary for Lands, 'Timber Industry in Tasmania'; and G.S. Perrin (then Conservator of Forests in Victoria), 'Forests of Tasmania: their conservation and future'.

100. See for example papers by: L. Rodway (the Government Botanist), 'Forestry in Tasmania'; and A. North (a Launceston architect), 'The economic aspect of Tasmania's forests'.

101. LSD, *Annual report*, 1908, 1915-16; G.J. Rodger, 'Forest Survey in Tasmania'.

102. LSD, *Annual report*, 1909.

103. D.E. Hutchins, *A discussion of Australian forestry*.

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104. *Tasmanian News*, 5 April 1890. The Amalgamated Society of Mill Hands, Carters and Laborers.

105. *The Sporting News and Axemen's Journal*, which was published in Tasmania (1901-04), reported the affairs of the axemen with loyalist fervour. The axemen's association was presided over by ex-Premier Sir E.N.C. Braddon.

106. For example Risby Bros in Hobart employed 100 men who not only cut Tasmanian timber for sale to local builders but also made joinery, church seats, and even complete 'knock-down' cottages sold for erection in the mining towns of the west coast and in California - Risby Bros, *Price List*, 1909.

107. M.D. McRae, 'The Tasmanian Labour Party and trade unions, 1903-1923.

108. Federated Timber Workers Union - Tasmanian Branch, *Register of members* 1911-1918, lists 1209 names. Details of payments of subscription 1912-1917 lists payment by 633 members.

109. ATWU-T, *Minutes* of Management Committee 15 June 1918, Report of Secretary, W. Scanlon.

110. ATWU-T, *Minutes* of General Meeting 23 Feb. 1918, Managment Committee 15 June 1918, Executive Committee 16 Sept., 11 Nov. 1918.

NOTES TO CHAPTER 6

1. By 1929, hydro-electricity accounted for 40% of the world's electricity - D.S. Landes, *The unbound Prometheus*, p.286. In Tasmania, Electolytic Zinc (EZ) expanded production from 10 to 100 tonnes a day in 1923. Confectionery and textile factories were built in the 1920's and a cement works in 1930. The paper mills were built in 1938 and 1941.

2. P. Cochrane, *Industrialisation and dependence*, p.27.

3. *Ibid*, pp.107-109.

4. JPP 1926/52, *The case for Tasmania*. See also JPP 1926/53 for the Commonwealth's reply, and P.Cochrane, *op.cit.*, p.113.

5. H.W. Gepp, 'Foreword', *Electrode*, No.1, Aug 1920. *Electrode* is the company magazine of Electrolytic Zinc (EZ).

6. As early as 1892, Risby Bros in Hobart had built kilns to dry timber artificially by the patented 'Reiser' process. Risby's probably used these kilns to prepare timber already partly air

dried for their joinery and moulding business. D. Brownlow, *Risby Bros Pty Ltd.* The need for artificial seasoning was discussed at successive Interstate Forestry Conferences from 1916.

7. E.A. Holden, 'Paper making in Australia'; R.B. Jeffreys, 'A brief historical review of pulp and paper making in Australia'; L.R. Benjamin, 'The challenge of the eucapypts'; J. Rawson, *A history of the Australian paper making industry*; A.J. Watson and W.E. Cohen, 'Pulping of eucalypts - an historical survey' (with an extensive bibliography).

8. Apart from one small test, the first investigation of the pulping qualities of Australian eucalypts was carried out at the instigation of the Tasmanian government in 1914-15. The possibility of making pulp from Tasmanian woods was first mentioned by the Conservator of Forests in 1912. In 1914, a scientist from the Forest Products Laboratory in the US was brought to Hobart. He tested three local species by the soda process but concluded that although suitable pulp could be made it was unlikely to be a commercial success. The investigation was expensive ($1,000) by Tasmanian standards of the time. It is understandable in relation to the government's surplus of electricity, for which paper production might have provided a market. - JPP 1915/8, H.E. Surface, *Possibility of making paper pulp from Tasmanian timbers.* The next investigations were initiated by the State governments in response to shortages during the First World War. Victoria sent samples of wood to Norway in 1917, but the report on the mechanical pulp made was not encouraging. New South Wales considered the prospects in 1916 and sent samples of wood to Canada, but lost interest when the War ended. In Western Australia, pulp was made for munitions in 1915-16 and for paper in 1917-18, but again the studies were discontinued at the end of the War. The paper pulp was made by the soda process from young trees at the instigation of the Conservator of Forests who was interested in having young stands of regrowth thinned. - A.J. Watson and W.E. Cohen, *op.cit.* These slender responses were typical and neither governments nor capitalists initiated research for long-term ends during the First World War and few industrial or scientific advances were made. I. Turner, '1914-19', *In* F.K. Crowley, *A new history of Australia*, p.356.

9. For example, the first test of Australian woods on a commercial scale was carried out by L.R. Benjamin, of the Institute of Science and Industry, and D. Avery, an industrial chemist who worked as a consultant to and later director of Collins House companies. L.R. Benjamin, 'The challenge of the eucalypts'.

10. See for example, J.R. Robertson, '1930-39', *In* F. Crowley, *op.cit.*, pp.416-418.

11. E.R. Walker & D.L. Anderson, *The Tasmanian Economy in 1938-39*

Notes to Chapter 6

12. E.R. Walker, *Australian economy in war and reconstruction*, pp.20, 133-137, *et passim*.

13. Controls of the production and distribution of timber were set up by the Commonwealth in 1942. They were administered by the Timber Control Organisation staffed largely from the government forest services. S.L. Kessel, 'Timber Control', which cites *National Security (Timber Control) Regulations*, 23 March 1942, and *Declaration of [sawmilling as a] Protected Industry*, 7 March 1942. Controls were applied through trade organisations. For example, the distribution of plywood was arranged by the Australian Plywood Board through local trade associations - in Tasmania, one had to be formed hastily for the purpose. Each State and distributor was supplied in proportion to past business. The Northern and Southern Plywood Distributors Association were formed in Tasmania by August 1942 following the Timber Controller's appointment of one firm only, Brewster & Norman, to act as Tasmanian agents. FC 4/ASS4/14, Controller of Timber, circular 'Control of Plywood', 4 July 1942.

14. Overseas destinations absorbed 51% of the value of Tasmanian timber exports in 1903-09, 6% in 1922/23-1928/29, and 4% in 1929/30-1938/39, and 2% in 1939/40-1948/49. M. Row, *The Tasmanian timber trade, 1830-1930*; *Statistics of Tasmania*.

15. FD, *Annual report*, 1922,1925,1926.

16. CPP 1930/99, Tariff Board, *Report and recommendations on proposals for embargo and increased duties on timber*. Only 72,000 m^3 of timber were sawn in 1930/31 and 85,000 m^3 in 1931/32.

17. D. Brownlow, *Risby Bros Pty Ltd* cites profit and loss figures for three firms of sawmillers and timber merchants.

Year	Risby Bros.	Kemp & Denning	Crisp & Gunn	
	Profit ($)	Profit ($)	Profit($)	Loss($)
1936	1,204	13,436	17,386	
1937	392	8,200	12,422	
1938	282	14,410	21,808	
1939	1,340	15,576	20,426	
1940	1,796	16,796	20,336	
1941	2,242	19,200	2,370	
1942	2,938	14,390		11,254
1943	2,100	14,078	2,556	
1944	616	8,916	9,232	
1945	2,330	12,588	17,450	
1946	2,394	11,348	4,506	

18. *Statistics of Tasmania*.

19. *Ibid*.

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20. G.J. Rodger, 'Forest survey of Tasmania', *Proc. 3rd British Empire Forestry Conference*, pp.841-842.

21. Tasmania, Lands Department, *Tasmanian forestry: timber products and sawmilling* (1905).

22. LSD, *Annual report*, 1912-13. By making the conservative assumption that productivity in the general sawmills did not increase, and that the number of case mills in the 1900's was negligible, the total number of mills in later periods can be separated into general and case mills. By comparing data for 1900-09 with 1930-39, an estimate of 82 case mills is obtained for the 1930's. By comparing data for periods of peak production, 1905-1907 versus 1912-21 or 1923/24-1925/26 the number of case mills at the end of the 1920's is estimated at about 75.

23. P. Cochrane, *op.cit.*, p.106; ATWU-T, *Minutes* of Management Commiteee, 13 Nov 1920.

24. ATWU-T, *Minutes* of Management Committee, 17 Nov. 1924.

25. Interview, Mr.W. Leitch, former General Manager Henry Jones IXL Timbers Pty Ltd, Hobart, 15 Nov 1979; *The World*, 23 June 1922.

26. *Ibid.* W. Leitch. For example, Henry Jones' mill at Leprena on Recherche Bay could only be approached by foot or sea. A worker who moved his family and belongings there in the company boat could only take his furniture away again if it suited the manager.

27. 11 Geo.V No. 51, *The Wages Board Act, 1920.*

28. Even if the ATWU-T felt little had been achieved, the Health Dept. Inspector did visit the Leprena mill after a typhoid outbreak at the settlement and did order the owners to make various improvements at the settlement. *The World*, 13 Feb 1922.

29. For instance, the union was still struggling in the 1940's to have tailguards, or riving knives, fitted to circular saws long after they were compulsory in Victoria - ATWU-T, *Minutes* of Managing Committee, 16-17 Dec 1939, State Executive Committee, 17 July 1942.

30. For example, a 9 week strike at Mt Lyell in 1924. AWTU-T, *Minutes* of Management Committee, 17 Nov 1924.

31. The union's *Membership register* for 1911 records so many names from the Huon Timber Company mill that virtually every worker seems to have been a member. LSD, *Annual report*, 1911-12, records two instances of 'labour difficulties' at Millar's [ie.

Huon Timber Co.] mills. ATWU-T, *Minutes* of Management Committee, 20 Sept 1919, reports request of Geeveston members 're the non-unionists working the band [Huon Timber Co.] mill'. The Secretary was despatched to Geeveston and no further difficulties reported.

32. ATWU-T, *Minutes* of Management Committee, 4 May 1921. Workers spent up to 3 hours a day travelling to and from their work, half in their own time.

33. ATWU-T, *Minutes* of Executive Committee, 16 Sept 1922, Management Committee, 4 April 1922; *The World*, Nov 1921.

34. ATWU-T, *Minutes* of Management Committee, 2 Feb 1922, and acknowledgements of donations in *The World*, Feb-Sept 1922.

35. ATWU-T, *Minutes* of Management Committee, 4 Apr, 16 Sep 1922; *The World*, 3,4,11,14,16 Nov 1921, 1,2,4, Feb, 23 June 1922; *Mercury*, 6,9,10,11,,13,15,20 Feb, 20,23 May, 16,19,21 June, 8 Aug 1922.

36. M. Dixson, 'The timber strike of 1929'; ATWU-T, *Minutes* of Management Committee, 9 Feb. 1929.

37. The minute book of the ATWU-T has no entries between 9 Feb 1929 and 5 Mar 1936.

38. ATWU-T, *Minutes* of Management Committee, 5 Mar 1936, 15 May 1937, 3,4 Dec 1938, 10-11 June 1939.

39. Roads to isolated forest mills were fearfully bad and impassible to cars in winter, so that '... in many instances the womenfolk [going to shop] were in danger of being killed by riding loads of timber ...' *Ibid*, 10-11 June 1939.

40. ATWU-T, *Minutes* of Executive Committee, 20 Aug 1939, records sawmillers being fined $2-20 for breaches of the award. However the uselessness of prosecuting brankrupt millers was clearly recognised as in the case of Gathercole's mill at Port Arthur where workers not paid for 5 weeks only received half their wages when the mill bankrupted.

41. 2 Geo.VI No. 47, *Forestry Act*, 1938. The Federal Council, ATW, passed a resolution of congratulation, sent to the Minister for Forestry, 7 Nov. 1938, and the ATWU-T sent a letter of appreciation, 9 Nov. 1938.

42. The overall trend in Australia can be guaged from an index of real wages based on normal weekly wages for adult males deflated by the 'C' series of retail prices:

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Year	Index of real wages
1939	1211
1940	1190
1941	1194
1942	1196
1943	1231
1943	1246
1945	1252
1946	1263

Year Book of the Commonwealth of Australia, 1951.

43. The union commended the attitude of Crisp and Gunn in supplying these - ATWU-T, *Minutes* of Executive Committee, 29 Aug 1941.

44. FC 4/ASS 4/19, Timber Industry Advisory Committee, Minutes, May 1943 to Nov 1945.

45. ATWU-T, *Minutes* of Executive Committee, 15 May, 7, 17 July 1942.

46. For example, the Huon sawmillers pressed for better tenure in the 1870's and lobbied for lower royalties in the 1900's. The Sawmilling Association was first mentioned in official reports in FD, *Annual report*, 1922/23. The three associations were:
- The Southern Tasmanian Sawmills and Hardwood Merchants Association,
- The Northern Tasmanian Sawmillers and Timber Merchants Association, and
- The North-West Sawmillers Association.

47. FC 4/2138B/28, Minutes of conference between Minister for Forestry and Tasmanian Timber Organisation, 20 Aug 1929 - statement by A. McGaw, Manager of Van Diemen's Land Company and President TTO.

48. FC 4/2138a/27, Minutes of Timber Industry Conference held in the Executive Council Chambers, Hobart, 16 Aug 1927.

49. Tasmanian Timber Organisation Limited, *Memorandum and Articles of Association* (Burnie), 1928.

50. FC 4/ASS2/2 Tasmanian Timber Organisation, 'Statement reviewing history of the organisation', Burnie, 23 Oct 1928.

51. 18 Geo.V No.95, *Forestry Act, 1927*. Case timber was excluded.

52. G.J. Rodger, 'Forest survey of Tasmania' *op.cit.*, p.846, C.E. Lane-Poole, 'Forest survey in Tasmania', p.10.

53. FC 4/2138a/27, Acting Conservator of Forests to Honorary Minsiter for Forestry, 16 Aug 1928.

54. FC 4/2138B2/28, Minutes of conference held between Minister for Forestry and TTO, 20 Aug 1929; 20 Geo. V No.34, *Forestry Act*,

1929.

55. TTO, *Account books*. The Forestry Department forwarded 'Timber Toll Collections' from June 1928 to April 1931 and then grants at the rate of $2,000 per annum until June 1944. The Audit Department scrutinised the budget and expenditure each year to ensure that the government contribution was not spent on industrial matters.

56. FC 4/POL1/2, Conservator of Forests to Minister for Forestry, 19 March 1941.

57. TTO, *Account books*. It sent samples of flooring to Canada, distributed small sums to the district associations and subscribed to the Australian Federal Sawmillers Association, founded in 1935. It floundered about for years trying to set grading standards and have them approved by the Standards Association. Timber inspections were only carried out when requested by foreign buyers and then 50% was commonly rejected.

58. FC 4/ASS2/2, Memo J.M. Firth, District Forester to Minister for Agriculture, [Feb] 1932 and comments by C.G. Ryan.

59. TTO, *Account books*, *Minutes of directors meetings*, 1941-43, *Annual report*, 1940/41, 1941/42.

60. TTO, Minutes of meeting with Minister and Conservator, 5 Aug. 1943. FC5/2200, Minutes of Conference of Sawmillers, Launceston, 20 Oct. 1943.

61. TTA, *Annual report*, 1945, 1946, 1947.

62. FC 4/ASS5/6, J.M. Firth, 'Note on the Forester settlement and Mt Horror milling areas', Forestry Conference, 25 May 1938. Henry Jones built their Warentinna mill in the north-east in 1933 and added 4 drying kilns and 1 reconditioning chamber in 1934, pers. comm., W. Leitch, Hobart, 15 Nov 1979.

63. FC 1/1534/27, Conservator of Forests to Minister Controlling Forestry, 6 Feb 1925, 21 March 1929; Conservator of Forests to Chairman, Joint Committee, 16 Feb 1927; M. Garrett, 'Report on exploration and prismatic compass survey of Crown Lands south of the Arthur River', Forest Office, Burnie, 12 Nov 1927 - this details a heroic journey in the Hellyer style of a survey party led by Garrett which lasted for 33 days and was completed on very limited rations; it located some 20,000 hectares of timber with a volume of approximately 900,000 cubic metres.
JPP 1927/15, Report of Joint Committee, *Timber Industry Encouragement Bill, 1926*; 18 Geo.V No.99, *Timber Industries Encouragement Act, 1927*. The provisions of the Act included:
- The nominal capital was to be at least $2 million, and at least 100,000 shares were to be applied for within 1 year.

- The company's head office was to be in Tasmania and the company's name was to include the word 'Tasmanian'.
- Within three years the company was to erect a furniture factory in Tasmania at a cost of at least $20,000 in which at least 50 people were to be employed.
- The company was to keep its principal works and factories in the State.
- Normal royalties were to be paid plus a levy of $0.05 per cubic metre to cover the regeneration and fire protection of the forests.
- An Exclusive Forest Permit would be issued over 52,610 hectares of forest for 99 years at one-half the normal rental.

64. Australia, Development and Migration Commission, *Report on afforestation and reforestation in Tasmania.*

65. See note 16.

66. The Kauri Timber Company built a sawmill in South Melbourne in 1933 to cut logs they imported from the Solomon Islands. In 1936, they added kilns and processed Victorian and Tasmanian timbers. *Jobson's Investment Digest*, 3 June 1933; *Stock Exchange Research Service*, 1936.

67. The Gunnersens started in the Australian timber trade in 1879 when Captain Gunner Gunnersen emigrated from Norway and set up as a timber merchant in Adelaide. In 1887, he entered into partnership with another Norwegian to import timber from the Baltic into Melbourne under the name of Romcke Gunnersen & Co. From 1897, the Melbourne business was run rolely by the Gunnersens as G. Gunnersen & Co., and incorporated as a private company in 1915. The firm then started to market plywood imported from Queensland and overseas. Plywood sales grew and became a major part of the business. In 1934, the firm was renamed Gunnersen Nosworthy Pty Ltd when a member of the business entered the board.

In Adelaide, the Le Messuriers had established a customs house, shipping and general agency business in 1853. In 1915-16, they formed a joint timber merchant company, Gunnersen-Le Messurier Pty Ltd, to operate in Adelaide, and joined with Gunnersens and a Sydney merchant, J. Crockett, to set up Gunnersen-Crockett companies in Sydney and Brisbane. In Melbourne, the Le Messuriers invested in Gunnersen Nosworthy.

E.A. Alstergren established Altergren Pty Ltd as timber brokers and agents in Melbourne in 1925. The Gunnersens and the Le Messuriers invested in Altergren Pty Ltd when the latter was in financial difficulties during the depression, and W.G. Nosworthy became a director of the Altergrens in 1936. *Australian Timber Journal*, 6(2), 1940, pp.83,135; *Jobson's Investment Digest*, 2 June 1950; *Australian Forest Industries Journal*, 45(5) June

1979, p.67; *Australian Timber Journal*, 2 Oct 1936, p.406 - I am most grateful to Benita Carter for drawing this last to my attention.

68. Dunkleys had operated a sawmill on the west coast since at least 1906 and had moved to Stanley and built a mill there just before the end of the First World War. They had amalgamated with a sawmill owned by E. Hugh Fenton in Smithton about 1920. Fenton acted as manager for Circular Head Amalgamated Timbers and developed a number of operating improvements. H. Trethewie (ed.), *Back to Circular Head*; *Circular Head Chronicle*, 2 Mar 1960; Obituary, E.H. Fenton, *Australian Timber Journal*, 32(2), March 1972, p.75; interview with Mr L. Beckett, Forest Manager, Kauri Timber Co.(Tas) Pty Ltd, Smithton, 22 May 1979.

69. *Jobson's Investment Digest*, 1 Sept 1947; Interview, Mr J. Waddington, Manager, Kilndried Industries Ltd., Launceston, 17 May 1979.

70. *Australian Timber Journal* vol. 21(8), Sept. 1955, pp.706-13; Interview Mr Kieth Dunham, Plymill Manager and Director, Tasmanian Plywood Mills Pty Ltd, Somerset (Tasmania), 23 May 1979.

71. *Statistics of Tasmania.* Although paper making is not shown as a separate statistical category, the size of the two mills can be estimated from the difference in category 'Newspapers, printing and binding and paper making' between the years 1937/38 and 1941/42, as no other developments of comparable magnitude occurred.

	Newspapers, paper, etc.		Paper estimated	Sawmills
	1937/38	1941/42	1941/42	1941/42
No of establishments	28	28	2	208
Power of engines (kW)	592	20,049	19,000	5,535
Average no. of workers	783	1,778	1,000	1,754

72. E.A. Holden, *op.cit.*

73. Bureau of Census and Statistics, *Overseas Trade.* Official statistics did not separate imports into the types shown in Table 6.1 until 1922/23. By the 1920's, the annual value of imports reached $9.2 million for paper and $0.4 million for pulp.

74. P. Cochrane, *op.cit.*, p.92.

75. J. Rawson, *op.cit.*, ch.4; APM, 'A brief history of paper making in Australia'; L. Benjamin, 'The challenge of the eucalypts', *op.cit.*; R.B. Jeffries, *op.cit.*

76. The number of proprietors of capital city dailies fell from 21 to 12 in the 1920's - H. Mayer, *The press in Australia*, p.31.

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77. Gerald Mussen was an industrial consultant to Broken Hill Amalgamated Smelters at Port Pirie and to EZ, as well as one of the founders of the *News* in Adelaide - *Who's who in Australia*, 1938.

78. JPP 1924-25/37, Report of Select Committee on *Wood-Pulp and Paper Industry Encouragement Bill, 1924*. An address by G. Musssen reported in the *Advocate*, 22 Feb 1939, gives the date of the agreement as 1921, but 1923 is more likely given the dates for the research and development of pulping methods.

79. Lewis was a barrister. As Minister for Mines, he had greatly assisted EZ to establish in Tasmania. J. Reynolds, 'Premiers and political leaders'.

80. JPP 1924-25/37, *op.cit.*; 15 Geo.V No.21.

81. L.R. Benjamin, 'The challenge of the eucalypts'. Two hundred tonnes of logs were shipped to Britain, but the only sulphite mill there refused to test them. Moreover all the English mills kept their doors shut to the Australian investigators. This seems to have been part of a general secretiveness in the paper mills, which still relied on quite a lot of craft skill, rather than a specific counter to the potential threat to British sales in the Australian market.

82. *Ibid.*

83. JPP 1926/14, Report of Select Committee, *Kermandie Wood-Pulp and Paper Industry Bill, 1926*. 16 Geo.V No.13. Rights under the Act were granted to David Avery as Promoter. Avery was already a director of Amalgamated Zinc according to the *Australian dictionary of biography*, vol.7, 1979, when he obtained the concession. Mussen assigns a more entreprneeurial role to Avery and thought he was 'joined by Amalgamated Zinc' *after* he had the concession - *Advocate*, 22 Feb 1939.

84. Tasmanian Paper Pty Ltd was formed in May 1927 with an authorised capital of $200,000. AZ took 70% of the shares and the remaining 30% was split between EZ, North Broken Hill, Austral Development Ltd (London), Edward Lloyd Ltd (London), National Metal and Chemical Bank Ltd (England), Estate Sir Alfred Ashbold, and APM - J.Rawson, *op.cit.*, p.73.

85. L.R. Benjamin, 'The challenge of the eucalypts'; APM, *Port Huon mill*, brochure, 1975.

86. JPP 1925-26/49, Report of Select Committee, *Wood-Pulp and Paper Industry Encouragement Bill, 1926*; 16 Geo.V No. 82, *The Wood-Pulp and Paper Industry Encouragement Act, 1926*; J.Rawson, *op.cit.*, pp.74-75; *Advocate*, 22 Feb 1939.

87. L.R. Benjamin, 'The challenge of the eucalypts'. A

Commonwealth inquiry also recommended a joint venture in Tasmania - H. Gepp and I.H. Boas, 'General report to Commonwealth on proposed paper industry in Tasmania', 9 Dec 1930, cited by J. Rawson, *op.cit.*, p.76.

88. APPM, *Prospectus*, registered Melbourne, 18 April 1936. The firm subscriptions of one pound ($2) shares were:

North Broken Hill Ltd	75,000
Broken Hill South Ltd	75,000
Zinc Corporation Ltd	50,000
Electrolytic Zinc Co. of A/sia Ltd	75,000
Australian Glass Manufacturers Co. Ltd	25,000
Amalgamated Zinc (de Bavay's) Ltd	150,000
W.H. Smith (Sharebroker)	175,000
	625,000

89. 1 Ed.VIII No.35, *Associated Pulp and Paper Mills Act, 1936.* In addition to the forest concession, the government was prepared to allow pulpwood to be cut from any Crown Land forest within 19 kilometres of government railways west of Westbury and north of the Arthur River. However the company never did cut there and the provision lapsed. Although the additional provision almost doubled the area of forest available to the company, no estimate of the forest area seems to have been available and there was no assessment of the quantity of pulpwood conceded. There seems to have been no need for this huge area, indeed it is doubtful if the concession area itself was needed for the size of the mill proposed. The mill, which was planned to be only half the size of that proposed in 1924, expected to use 20,000 cords of wood a year and had bought an estimated 1 million cords of eucalypt wood on the Woolnorth and Ringwood forests from Van Diemen's Land Company. In addition it had rights to 50,000 cords from the Surrey Hills Block. In the event very little wood from any of these sources was used in the first ten years of the mill's operation, supplies being drawn from closer and more accessible privately owned land. 1 Ed VII No35., first schedule; APPM, *Prospectus*; APPM, Chairman's address, *Proc. Annual General Meeting*, 1945, 1948.

90. FC 5/5459, Conservator of Forests to Minister controlling Forestry, 25 Nov 1924.

91. Robert Woodhead was the British manager brought out to build and start the mill. APPM, *Prospectus, Annual reports*, various years. The company purchased and built homes for the new workers and persuaded the government to build more. This was achieved through the State-owned Agricultural Bank of Tasmania which purchased enough land from APPM to build up to 40 houses. APPM kept firm control by appraising the designs and costs, encouraging workers to buy them, by guaranteeing bank loans and prudently deducting repayments from their wages. 2 Geo.VI No.32, *Homes (Burnie Paper Mills) Act 1938*,

Notes to Chapter 6

92. With considerable optimism, the directors even contemplated exporting pulp - APPM, *Report of Annual General Meeting*, 1937.

93. See R.B. Jeffreys, *op.cit.*, for examples mainly in APM. APPM conducted laboratory research at Burnie from 1937.

94. APPM, *Report of Annual General Meeting*, 1939.

95. APPM, *Annual Report*, 1939-1946. I.M. Kelly and D.M. Hocking, 'Paper industries in war-time', pp.218-230, state that a maximum profit rate of 10% was first agreed with the Prices Commissioner. The Chairman stated that it was 6% - APPM, *Report of Annual General Meeting*, 1948.

96. APPM, *Annual Report*, 1944.

97. APPM, *Annual Report*, 1947,1948. This did not deter the Chairman from complaining that the continuation of Price Control was threatening the company !

98. L.R. Bejamin, 'The challenge of the eucalypts'.

99. FD, *Annual report*, 1923.

100. JPP 1932/4, Report of Joint Committee on *The Florentine Valley Wood-Pulp and Paper Industry Bill, 1932*. 23 Geo.V No.10, *The Florentine Valley Wood-Pulp and Paper Industry Act, 1932*.

101. T. Fink, *Report on overseas tests* (Derwent Valley Paper Co. Pty Ltd), Nov 1934.

102. 26 Geo.V No.27, *Florentine Valley Paper Industry Act, 1935*.

103. Commonwealth Bureau of Census and Statistics, *Overseas Trade*. Only includes newsprint in rolls over 10 inches wide. Other categories of newsprint were trivial.

104. T.Fink, *op.cit.* The suggestion of testing the Florentine wood in Crown Zellerbach's Ocean Falls mill in British Columbia was first made in 1933 and approved by the board in 1934.

105. R.A. Henderson (Chairman ANM), 'The beginning of a further phase of development'.

106. The only reference to this contract that I have found was given by W. Bunston in ANM's house journal, *Newsprint Log*, in 1945. Bunston was joint manager of the Newsprint Pool which rationed paper in war-time and was requested to write the article by ANM's General Manager.

107. Commonwealth of Australia, No.64 of 1938, *Newsprinting Paper Bounty Act, 1938*.

Notes to Chapter 6

108. 1&2 Geo.VI No.79, *Florentine Valley Paper Industry Act, 1937.*

109. Within the range $0.05 to $0.15 per cubic metre.

110. The war-time delays and shortages increased costs so that an extra $320,000 had to be raised '... by the dilligent scrounging of Sir Keith Murdoch [Chairman of the Herald] ...' - W. Bunston, *op.cit.*

111. Sir Lloyd Dumas, 'Difficulties that had to be overcome'.

112. W. Bunston, *op.cit.*

113. At the top a No.1 machineman making paper received 60% over a labourer, but most workers received some margin. *Paper and Pulp Manufacturing Industry Award*, 25 Feb 1948, cited by J. Rawson, *op.cit.*

114. J. Rawson, *op.cit.*, ch.16. The mainland union for paper makers, the Australian Paper Mills Employees' Union (APMEU), later to become the Pulp and Paper Makers' Federation of Australia (PPMFA), was an 'in-house' union representing APM workers. When APPM started, it was loathe to come to Tasmania or be associated with another company.

115. G. Mussen, *The humanizing of industry and commerce.* The gospel was first expressed by Broken Hill Amalgamated Smelters at the company town of Port Pirie (SA) with a company store (designed to keep down the cost of living and hence wages), contributory health funds, a holiday camp, and company assistance in constructing a town park.

117. ATWU-T, *Minutes* of Executive meeting, 21 April, 29 Sept 1940.

118. *Ibid.*, 21 April 1940.

119. *Ibid.*, 20 Nov 1941.

120. *Ibid.*, 10 Sept 1942.

121. *Ibid.*, 2 April, 21 May 1940.

122. *Ibid.*, 19 June, 3,17 July, 24 Oct 1942.

123. *Proc. [5th] Interstate conference on forestry*, 1920. The matter was refered to a Premiers conference and subsequently considered by an Empire Forestry Conference in London.

124. 11 Geo.V No. 60.

125. FD, *Annual report*, 1927, 1928, 1939.

126. One scheme envisaged setting up boys' homes where migrant youths

would divide their time between planting and schooling. Although the Consevator implored the British authorities to '... let the waste children of the Empire reclaim the waste lands of the Empire and in reclaiming those lands arrive at their own reclamation ..., the British were not prepared to pay. - L.G. Irby, 'Forestry legislation in Tasmania', delivered to an Interstate Australian Forestry Conference. See also: L.G. Irby, *Forest plantation scheme*; Government of Tasmania, *Tasmanian forest plantation scheme*; Tasmania, State Forestry Department and State Development Board, *Forest plantation homes*.

127. Australia, Development and Migration Commission, *Report on afforestation and reforestation in Tasmania*. The major part of this was the report 'Forest survey in Tasmania' by G.J. Rodger, *op. cit.*, which had been presented to the 3rd British Empire Forestry Conference.

128. From 1931 to 1935, unemployment relief funds averaged $6,654 a year. In 1935, a Commonwealth grant of $50,000 was matched with a state grant of $10,000 to create a Forestry Tust Fund to be used for plantation establishment and youth training. FD, *Annual report*, 1931-38.

129. The EFP system commenced on 1 Jan 1922. A new applicant had to start building a mill within 6 months and start cutting within 1 year. *Government Notice* 566 of 16 Dec 1921, *Tasmanian Government Gazette*, 20 Dec 1921.

130. FC 1/F8/20, Conservator of Forests to Commissioner of Police, 30 April 1920.

131. FD, *Annual report*, 1920/21.

132. LSD, *Annual report*, 1919/20. The royalty rate for eucalypt logs was increased from $0.04 to $0.21 per cubic metre.

133. FD, *Annual report*, 1922/23.

134. 21 Geo.V No.55, *Forestry Act, 1930*, with efect from 1 July 1930.

135. Rates for 1920 to 1942 were tabulated by the Forestry Department in FC 4/ASS2/2, memo to the Minister for Forests, 18 May 1943. See also, *Government Notice* 566, 567, 16 Dec 1921.

136. FD, *Annual report*, 1919/20-1938/39.

137. *Ibid.* Timber inspection fees are included under 'Other'.

138. C.E. Lane-Poole, 'Forest Survey of Tasmania'.

139. S.W. Steane, 'State forestry in Tasmania'.

140. FC 4/POL3/3, S.W. Steane, Conservator of Forests, Evidence to Federal Grants Commission hearing, Hobart, 30 Oct 1935.

141. S.W. Steane, 'State forestry in Tasmania'.

142. FC 4/ASS2/2A, Minutes of conference with Minister for Forestry, [August or September] 1935.

143. FC 1/F26/20 details a prosecution launched against Cumming & Co Ltd of Burnie for an apparently careless mistake reported by the police in October 1920. Cummings were prosecuted because the Conservator was prosecuting many others at the same time.

144. For example, a man caught cutting government brands off logs that had been seized, 'recaptured', and taken to a sawmill illegally, was only fined $2, and a sawmiller convicted of putting in returns for only one-third of the logs taken was not fined at all - FC 1/552/22, Acting Forester, Smithton, to Conservator of Forests, 21, 23 Sept 1922. FC 1/558/22 gives details of the case against J.H. Mackay in Oct 1923.

145. FC 4/ASS5/5, M.R. Garrett, Divisional Timber Inspector, Smithton, 'Comments on intensive checking system of sawmilling operations in the North-West Division', paper to conference of forestry officers, Hobart, 3 May 1937. Five assistant inspectors were recruited. The royalty collected in the Division jumped from $8,890 in 1933/34 to $16,284 in 1935/36, while salaries only increased by $ 2,268.

146. S. W. Steane, *A brief note on the principles of state forest policy*, p.25.

147. FC 4/POL1/2, Conservator of Forests to Minister for Forestry, 'Note on the Government Forest Policy and Departmental Procedures', 18 July 1939. FD, *Annual report*, 1935/36.

148. FC 4/ASS4/14, Conservator of Forests to Controller of Timber, 25 May 1942.

149. TTO, *Annual report*, 1940/41.

150. TTO, *Minutes of directors meeting*, 12 Oct. 1943.

151. ATWU-T, State Executive Committee, *Minutes*, 18 July, 26 Aug. 1940. The Union reported problems in the Mathinna and Deloraine Districts to the Conservator, and asked the Minister to report the affairs of Cumming Bros.

152. FD, *Annual report*, 1939/40, 1940/41.

153. JPPP 1943/10, Auditor-General, *Report for the financial year ended 30th June 1943*; JPP 1943-44/43, Select Committee of

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Legislative Council, *Report on statements in Auditor-General's report for 1942/43.* JPPP 1945-46/20, S.C. Burbury, *Investigation into alleged irregularities in the Forestry Department.*

154. JPPP 1946-46/39, JPPP 1946/1, Royal Commission, *Report on Forestry Administration.*

155. P. May, *Problems in the analysis of political corruption.*

156. JPPP 1944-45/45, S.L. Kessell, *Preliminary report on the forestry and forestry administration of Tasmania;* JPPP 1944-45/42, S.L. Kessell, *Report on the forests and forestry administration of Tasmania.*

157. From a Ministerial Department to a Departmental Corporation according to Wettenhall's classification - R.L. Wettenhall, *A guide to Tasmanian government administration.*

158. TTA, *Annual report,* 1945.

159. 10 Geo.VI. No.42, *Forestry Act,* 1946. The initial appointment was B.O. Plummer who, in 1938-39, had managed to combine the position of TTO organiser with membership of the House of Assembly - S. Bennett and B. Bennett, *op. cit.* In this period much of his work appears to have been related to 'coordinating' production by Tasmanian sawmillers with logging operations salvaging burnt forests in Victoria. TTO, *Account books;* ATWU-T, Minutes of Managing Committee, 10-11 June 1939;

160. FC, *Annual report,* 1947/48; TAA, *Annual report,* 1946.

NOTES TO CHAPTER 7

1. E. Mandel, *Late capitalism.*

2. Anthony Brewer, *Marxist theories of imperialism,* has provided a critical overview of major theories.

3. E. Mandel, *Late capitalism,* pp.336. The proportions of the capitalist world's foreign investment held by other powers in 1971 was: Britain 15%, France 6%, West Germany 4% and newer investments by Japan, Canada and several countries of the European Economic Community of 2-4% each.

4. E.R. Walker, *The Australian economy in war and reconstruction,* Ch.14. The Commonwealth started to plan for reconstruction as early as 1941 and, for example, looked at the possibility of using unskilled returning soldiers in forestry work. In Tasmania the Conservator envisaged having '... enormous numbers

to re-instate ...' and made plans to employ 1,600 men on plantation projects, tending natural forests, building forest roads and logging. With some element of Rousseauesque idealism he proposed a scheme of 40 forest settlements, each of 20 houses, that would enable seasonal forest work to be balanced with small holding and would be:

> ... something like ideal rural communities ... healthy and contented ... with sufficient interests and amenities to counteract the attractions of towns.

5 Geo.VI No.58, *Forestry Act, 1941*, allowed the Conservator to let the necessary leases and make regulations. It also strengthened the Forestry Department's finances by allowing them to retain all the royalties received instead of only two-thirds. See also FC 4/EPI/5A, Conservator to Minister for Forestry, 29 Dec 1942, and Conservator to Secretary, Grants Commission, 10 Feb 1943, proposing that the Tasmanian government borrow $12 million for polantations.

5. W.A. Sinclair, *The process of economic development in Australia*, pp.221,225. The Australian rate of increase of GNP was higher than in either the UK or US but less than the exceptionally high rates achieved in the reconstructing economies of Japan, West Germany, Italy and France.

6. N.G. Butlin, 'Some Perspectives of Australian Economic Development, 1890-1965', *In* C. Forster, *Australian Economic Development in the Twentieth Century*, p.290.

7. W.A. Sinclair, *op.cit.*, p.214; C. Forster, 'Economies of Scale and Australian Manufacturing' *In* C. Forster, *op.cit*, pp.162-164.

8. K. Windschuttle, *Unemployment*, p.13, showing unemployment rates from 1907 to 1977.

9. W.A. Sinclair, *op.cit.*, p.225.

10. R.M. Martin, *Trade Unions in Australia*, pp.11-17.

11. J. Collins, 'The political economy of post-war immigration'; and 'A divided working class'.

12. W.A. Sinclair, *op.cit*, p.248.

13. K. Rowley, 'The political economy of Australia since the War'.

Notes to Chapter 7

14. Apparent consumption of paper products
Australia 1950 - 1969
Average annual consumption (kg)

Period	Newsprint	Printing & Writing	Other Paper	Paper -board	Total
1949/50-1953/54	20.8	9.3	10.6	15.3	56.0
1954/55-1958/59	28.8	10.5	14.4	18.7	72.4
1959/60-1963/64	30.9	12.6	19.4	24.5	87.4
1964/55-1968/69	33.2	15.4	27.1	30.2	105.9

Compendium of Australian forest products statistics 1935-36 to 1966-67; Australia, Forestry and Timber Bureau, *Annual report*, 1969.

15. United Nations, *Transnational Corporations in world development*, pp.265, 270-273, cited by E.L. Wheelwright, 'The age of the trans-national corporations'.

16. Important links between Australia and the US were: the Bretton Woods and other international agreements for reconstruction; the International Monetary Fund, which Australia joined in 1947; and the ANZUS defence treaty of 1951 - M. Beresford & P. Kerr, 'A turning point for Australian capitalism 1942-1952'; K. Tsokhas and M. Simms, 'The political economy of United States' investment in Australia'.

17. ABS, *Foreign control in manufacturing industry : Study of large enterprise groups 1975-76*.

18. K. Tsokhas and M. Simms, *op.cit*; ABS, *Foreign control of registered financial corporations 1976*, and *Foreign control of finance companies 1976*.

19. One factory - Bowater-Scott - was started by an amalgam of US and UK capital. The other factory at Millicent in South Australia was initially started in 1960 as a joint venture by APM and a South Australian company, Cellulose. However Cellulose withdrew in 1961 and its share was taken up in 1963 by the US corporation, Kimberly Clark. Access to specialised technology, product development, packaging and promotion appears to have been important in this. The mill was expanded and Kimberly Clark's 'Kleenex' brand products manufactured and distributed in Australia. APM, *Annual Report*, 1960-1964.

20. ABS, *Foreign control of manufacturing industry*.

21. *Ibid.* The Kauri Timber Company and Tasmanian Board Mills in Tasmania, described later, were exceptions. By 1975-76, foreign investment in the wood, wood products and furniture sector was estimated (again from the largest 20 companies) at only 7% and some of this, particularly in the export trade from Western Australia, dated from the turn of the century.

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22. R.W. Connell and T.H. Irving, *Class Structure in Australian History*, pp.293-294,307, provide a brief summary; APM *Annual Report* 1975.

23. Lawriwsky examined the shareholding of a sample of 226 Australian companies in 1974/75 and classified the ownership of the largest 20 cohesive groups of shareholders in each. In total, such groups owned just over half the shares and thus had overall control. They consisted of financial institutions (insurance companies, banks etc.) with 18% of total shares, other companies 17%, individuals 11% and nominees 6%. Lawriwsky found that the sample was roughly equally divided among three broad categories of control. In one-third of the companies no single type of shareholding was dominant and control effectively was in the hands of their managements; one-third of the companies effectively were controlled by other (largely overseas) companies; and one-third (rather smaller companies) still were controlled by private individuals, though only 12 out of the 226 companies could be described as still being family companies. Lawriwsky's analysis confirms that Australia followed the world-wide trend of late capitalism in the extent to which investment decisions and control of major companies, the 'commanding heights' of the economy, had been placed in the hands of managers - the so-called 'managerial revolution'. Individual entrepreneurship also flourished in the 1950's and 1960's when thousands of small companies were floated, bringing the total number of companies to almost 150,000 by 1969. A great number of these were not businesses but were created for tax reduction or avoidance purposes. M. Lawriwsky, *Ownership and control of Australian corporations.*

24. N.G. Butlin, 'Some perspectives of Australian economic development', *In* C. Forster, *Australian economic development*, p.325.

25. The only intercensal period since 1881 to show a net gain from migration was in 1947-54 when arrivals exceeded departures by 1,061 persons. Data from the Population Inquiry cited by Sir Bede Callaghan, *Inquiry into the structure of industry and the employment situation in Tasmania*, p.28. This may be attributed partly to work offered on the construction of hydro-electric projects and partly to the compulsory diversion to them of immigrant labour.

26. In 1968-69 all sales of electricity averaged 0.81 cents per kilowatt hour in Tasmania, compared to the Australian average of 1.90 cents. Sales to industry averaged 0.59 cents in Tasmania and 1.46-1.75 in Victoria, Queensland and South Australia. ABS, *Tasmanian Year Book*, 1972. Collins House' long-established company, EZ, increased and diversified its production, and in 1960 BHP set up its Temco mill to process manganese for its mainland steel mills. However the major development was the construction of an aluminium smelter at Bell Bay in 1955. Built

by the Commonwealth to supply war-time defence needs, the smelter was sold in 1969 to Comalco, a joint US-British company, and one of the six transnational corporations dominating the global aluminium industry outside the Soviet block - *Transnational Brief*, April 1981. This single plant was expanded until by 1978-79 it was consuming one-quarter of the entire State's electricity - C.E. Harwood and M.J. Hartley. *An energy efficient future for Tasmania.*

27. For example, the production of tungsten ores on King Island, which had been increased in wartime with machinery provided by the Commonwealth government, was substantially expanded by investments of Australian capital. Iron ore was mined at Savage River on the west coast for export to Japan by a consortium of Japanese (50%), American (37.5%), and Australian (12.5%) companies. Histories of the King Island Scheelite and Savage River mines are given in *Tasmanian Year Book* 1980, and Jobson's *Year Book of Mining Companies*, 1978.

28. *Statistics of Tasmania*, 1967-68.

29. FC, *Annual Report*, various years

Year	Volume of sawlogs and pulpwood cut (m^3 million)
1950/51	467
1968/69	1,503

30. *Statistics of Tasmania*; ABS, *Tasmanian Year Book*. The reservations expressed in Chapter 5 concerning the comparability of production and export statistics need to be born in mind.

31. *Mercury*, 14 Oct 1948. Four government 'D' class vessels, each of 2,000 tons, were employed and the government had arranged for other larger ships to take some timber cargoes.

32. FC, *The sawmilling industry and the Wesley Vale concession area.*

33. *Statistics of Tasmania.* Power statistics for 1960's are for 1959/60 to 1967/68 only. The trend to replace steam with diesel engines and electric motors was virtually completed. Comparisons of power statistics are unlikely to be exact due to differences in rating different types of engines. Changes in labor productivity are difficult to estimate as the average number of hours worked normally declined during the period.

34. *Statistics of Tasmania*, Bush workers excluded.

35. D.J. Hart, *Sawmilling in Tasmania.*

Notes to Chapter 7

36. Distribution of sales in a sample of 20 sawmills, 1969/70

Log input (m^3 per year)	No. of mills	Proportion of sales (%)		
		Immediate locality	Tasmania	Interstate
Under 3,000	2	50	50	-
3,000-12,000	14	14-33	30-44	37-45
Over 12,000	6	4- 6	-	67-70

Ibid., p.43.

37. D.J. Hart, *op.cit.*, pp.51-56. See also E.H. Fenton 'Up-to-date features of sawmilling practice in Tasmania'.

38. D.J. Hart, *op.cit.*.

39. Employment classification in selected years[39]

Employment class	1948-49	1958-59	1967-68
		Number of sawmills	
	335	314	274
		Number employed	
Working proprietors	235	195	144
Managerial & clerical staff	124	163	209
Foremen & Overseers	87	118	)
Workers	1,766	2,113	) 2,448
Carters & Messengers	14	14	)
Total	2,226	2,603	2,801

Statistics of Tasmania, bush workers excluded. The category of Chemists, Draftsmen, Laboratory and Research Staff included only one person in 1948/49 - here included with Managerial and clerical staff. In the oficial statistics, the numbers by class do not tally with the total, but the difference is of trivial imortance here.

40. D. Brownlow, *Risby Bros Pty Ltd*; Risby Forest Industries, scrapbooks; *Australian Timber Journal*, vol.23(10), Nov 1957, vol.24(2), Mar 1958, vol.28(11), Nov 1962, vol.29(7), Aug 1963, vol.29(9), Oct 1963, vol.35(9), Oct 1969.

41. The only large band saw previously used in Tasmania was by the Huon Timber Company in the Band Mill at Geeveston, 1901-24. See Chapter 5.

42. *Jobson's Investment Digest*, 11 Sept 1947. Directors were Capt. J.H. Holyman, K.D. Atkins, E.A. Alstergren, W. Kirkhope and R.J. McArthur. *Who's Who in Australia*, 1965, lists W. Kirkhope as senior partner in an accounting firm, treasurer of the Liberal-Country Party 1945-57, Chairman of four companies and Director of Australian United Corporation and Australian United Investments.

43. *Jobson's Investment Digest*, 9 July 1953, 25 Nov 1954.

44. For example, the *Stock Exchange Research Service*, 25 Oct 1977, still listed Fehlberg, Fenton and McKay among the twenty largest

shareholders. Holyman interests then owned 26% of the capital and the Gunnersen/Le-Messurier/Alstergren network, 35%.

45. *Australian Timber Journal*, 21(89), Sept 1955, pp.706-13. Interview with Mr. Keith Dunham, Plymill Manager and Director, Somerset, 23 May 1979.

46. *Jobson's Investment Digest*, 20 Dec 1951, 23 Oct 1952.

47. See note 45, Mr. K. Dunham. The last steam winch was used until about 1955 and horses until 1960.

48. The Tasmanian interests were held through Timber Holdings (Tasmania) Pty Ltd. The Alstergren component was unable to maintain its relative equity in the expanding network and after several adjustments arranged, in 1965, a gradual sale of its own mills and timber yards to Timber Holdings. *Jobson's Investment Digest*, 22 June 1950, 11 Jan, 11 Oct 1951, 11 Nov 1954; *Jobson's Year Book of Public Companies* 1965; *Australian Timber Journal*, vol.26(11), Dec 1960, p.151, vol.36(2), Mar 1970, p.95. In 1951, Timber Holdings (Tasmania) Ltd. was registered as a Tasmanian company and A.E. Hilder and Loongana Sawmills made wholly owned subsidiaries which in turn held the shares of Tasmanian Plywood Mills. Timber Holdings (Tasmania) held the network's shares (40%) in Kilndried Timber Industries. *Jobson's Year Book of Public Companies*, 1970, 1977/78, 1978/79. In 1965 Alstergren Holdings Ltd sold 51% of its capital to Timber Holdings Ltd to be paid over 10 years. In 1977 Timber Holdings took over Alstergren Holdings and Timber Holdings (Tasmania) which were then both delisted.

49. B. Carter. *The Kauri Timber Company*; T.S. Simpson, *From Kauri to Radiata*, pp.239-43.

50. *Stock Exchange Research Service*, 1949; *Jobson's Investment Digest*, 15 Mar 1944, 3 Apr 1945, 1 Mar 1946, 1 Apr 1947, 9 Sept 1948, 11 Aug 1949, 12 Jan, 14 Sept 1950, 8 May 1952; *Jobson's Year Book of Public Companies*, 1956, 1959, 1963.

51. *Stock Exchange Research Service*, 5 Dec 1977.

52. Mr. Lyle Beckett, Forest Manager, Kauri Timber Co. (Tas) Pty Ltd, attributed the sale to conflict between the merchants in the network - Interview Smithton, 22 May 1979.

53. *Australian Timber Journal*, vol.16(8), Sept 1950.

54. *Circular Head Chronicle*, 2 Mar 1960. *Stock Exchange Research Service*, 6 Dec 1978; Kauri Holdings Ltd, *Annual Report* 1970, 1971; *Australian Timber Journal*, vol.36(7), Aug 1970.

55. The two mills - Fenton's and Jaeger's - were bought from Hardwoods (Australia), a subsidiary of the mainland timber

merchants Gibbs Bright which had taken over a series of Tasmanian sawmills after the Second World War. By 1950, Gibbs Bright had controlled the Ansons Bay Timber Co and H.T. Russell in the north east and Hardwoods (Australia) in the Smithton area. All told they had at least five sawmills of which three were equipped with kilns and dressing equipment.

56. Interview with Mr. Jim Cumming, Burnie, 9 Nov 1979. Both Cumming Bros Pty Ltd and Kara Sawmill Pty Ltd were sold by the Cumming family to APPM.

57. *Australian Timber Journal*, vol.28(2), Mar 1962, pp.72-80; vol.34(5), June 1968, pp.18-41; vol.36(1), Feb 1970, pp.15-27.

58. *Australian Timber Journal*, vol.34(4), May 1968, p.57; vol.34(7), Aug 1968, pp.67-8.

59. For example, by G.L. Flowers, MLC, himself a timber merchant who claimed with considerable exaggeration that 80% of the sawmilling industry was owned by mainland interests, *N.E. Advertiser*, 20 June 1950. See also *Examiner*, 4 Oct 1950.

60. *Australian Timber Journal*, vol.16(4), May 1950, p.233.

61. FD, *Annual report*, 1949/50.

62. FC 5/2572, Draft reply to notice of motion in Legislative Council, 6 Sept 1951.

63. JPPP 1952/24, Board of Inquiry, *Report into the Timber Industry*. The Board was appointed 29 Nov 1951 and reported on 28 April 1952. Its report was released 26 August 1952. The Board consisted of the Chief Commissioner of the Forestry Commission and the President of the Master Builders Association under the chairmanship of a treasury official, K.J. Binns.

64. TTA, *Annual Report*, 1952.

65. FC 5/6577, Chief Commissioner to Minister for Forestry, 2 Oct 1961, in answer to question on notice by Mr. Bessel, MHA, for 3 O2t 1961.

66. *Mercury*, 22 July 1948.

67. *Advocate*, 17 Nov 1948; *Mercury*, 25 Nov 1948; *Examiner*, 4 Dec 1948.

68. *Mercury*, 10 Dec 1948, 1 April, 3,6 Dec 1949.

69. *Mercury*, 21 Aug, 14,27 Sept, 5,19 Oct 1951.

70. *Mercury*, 14 Dec 1951. By 1961, there were 60 mills cutting only case shooks according to the *Examiner*, 15 Aug 1961.

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71. Quantity of fine paper, 1948/49, 1958/59 from *Compendium of forest products statistics*, assuming that all Australian production of printing and writing paper was made by APPM. Quantity of newsprint from *Tasmanian Year Book*. Quantities 1968/69 from FC *Annual report*, 1968/69. Employment from *Statistics of Tasmania* and ABS, *Manufacturing Establishments*. Employment in 1945/46 from FC, *Annual report*, 1945/46.

72. JPPP 1945-46/43, Report of Joint Committee on *The Tasmanian Paper and Timber Mills Bill, 1946*. 9 and 10 Geo.VI, No. 64, *Tasmanian Paper and Timber Mills Act*, 1946. The main features were:
    1. The 'West Tamar' concession was provided in the Asbestos Range area north west of Launceston. It was relatively small, 40,600 ha, and only granted for 30 years.
    2. The concession was comprised of two parts - the 'Pulpwood Area' (13,100 ha) in which the company could start cutting, and the 'Reserve Area' (27,500 ha) which the Conservator could add in parts to the Pulpwood Area as necessary.
    3. The company had exclusive rights to the pulpwood and rights to a small quantity, 750m^3 of sawlogs.
    4. The right of sawmillers to hold permits for sawlogs was explicitly maintained within the concession, and the Act guarded against sawlogs being cut into pulpwood. These provisions were strengthened after representations by the TTA to a Parliamentary Joint Committee.
    5. A Plan of Operations for the next 5 years had to be prepared by the company and approved by the Conservator each year.
    6. The company was responsible for the regeneration and protection of the forest subject to the Conservator's direction. If not performed, the Conservator could carry out necessary operations at the company's cost.
    7. Royalty rates were set for a 5 year period at \$0.17 per m^3 for pulpwood and \$0.42 per m^3 for milling timber, subject to 3-yearly revisions. A minimum royalty payment on 23,760 m^3 a year was required.

    A delay in construction was allowed by 11 Geo. VI, No.49, *Tasmanian Paper and Timber Mills Act*, 1947.

73. A.D. Helms, 'Forestry legislation in Tasmania, 1946'.

74. J. Rawson, *A history of the Australian paper making industry*, pp.134; *Stock Exchange Research Service*, 25 Jan 1977; *Jobson's Year Book of Public Companies*, 1978/79; *Jobson's Investment Digest*, 1 Apr 1946, 10 June, 12 Dec 1948.

75. B.L. Johns, 'The effect of entry and merger on competition in two related industries - paper and paper-converting'; F.G. Davidson and B.R. Stewardson, *Economics and Australian Industry*, pp.114-9.

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76. *Advocate*, 13 Mar 1968; *Examiner*, 15 Mar 1968; *Mercury*, 16 Mar 1968. *Jobson's Year Book of Public Companies*, 1962-1978/79. The ultimate holding company was British and Commonwealth Shipping Co Ltd of the U.K.

77. Objectives of forest policies were declared in JPPP 1947/37, Report of the Forestry Commission for the year ended 30th June 1947, and expanded in JPPP 1948/30, Report of the Forestry Commission for the year ended 30th June 1948, Appendix 'Forestry in Tasmania'.

78. *Mercury*, 2 Sept, 6 Oct 1953, reported that the Chief Commissioner went to Britain and Italy to investigate the first group. A.V. Bridgland, an Adelaide-born millionaire - 'one of the big men in London's financial world' - was reported to be behind the second group, *Mercury*, 13 Sept 1954. The British company was Westminster Developments Ltd. E.A. Alstergren of Alstergren Pty Ltd acted for the project.

79. No.49 of 1954, *Forestry Act*, 1954.

80. *Advocate*, 16 Apr 1955; *Mercury*, 11 Nov 1955.

81. No.23 of 1957, *Forestry Act*, 1957; *Mercury*, 13 Mar 1957.

82. *Mercury*, 17 April 1958. B.L. Johns, *op.cit.*

83. *Mercury*, 8, 25 July 1958.

84. *Mercury*, 20 Feb 1959.

85. The first Act, No.69 of 1959, *Forestry Act* 1959, made many minor changes to the 1954 Act, fixed the term at 80 years, removed some of the Commission's discretionary powers, and replaced the possibility of the Commission revoking the concession (by obtaining the Governor's approval) with a litigated procedure.

    The second Act, No.70 of 1959, *Huon Valley Pulp and Paper Industry Act*, 1959, provided the conventional series of rights (to water, effluent disposal etc.), excercise of state powers (to acquire land etc.), legitimation (of road construction etc.), and a loan of $300,000 for a water storage dam to be built by the Hydro-Electric Commission. Reports of consultations with the local authorities and sawmillers are found in *Mercury*, 11, 12, 18 Nov 1959.

86. *Tasmanian Government Gazette*, 2 Nov 1959.

87. Interview with Mr. B. Hickey, Forester, APM, Port Huon mill, 21 Nov 1979.

88. *Ibid.*

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89. Interview with Mr. P. Elund, Accountant APM, Port Huon mill, 21 Nov 1979. APM did not operate a health fund but did have a cooperative welfare scheme which provided sickness benefits and funeral expenses through periodic 'mortuary levies'.

90. Bureau of Census and Statistics, *Overseas Trade*. The category Scandinavia and Other is predominantly Scandinavian; Other only amounted to 1-4%.

91. L.R. Benjamin, 'Changing concepts in the making of newsprint from eucalypts, 1915-1965'. ANM had a long-term supply contract with New Zealand Forest Products Ltd which was presumably associated with a guarantee that ANM provided for a loan that the AMP Society made to the New Zealand company - B.L. Johns, *op.cit.* It may be noted that the pulp came from New Zealand Forest Products but the newsprint imports came from Tasman Pulp and Paper Co. Links between the two sales have not been traced.

92. *Jobson's Year Book of Public Companies*, 1962. Dividends increased to 15% by 1955 and 25% by 1958.

93. 'The Australian newsprint story', *Appita*, Vol.29(5), Mar 1976, pp.321-327.

94. *New Zealand Official Year Book*, 1958-1969, (Wellington, Govt. Printer).

95. *Jobson's Year Book of Public Companies*, 1964.

96. F.G. Davidson and B.R. Stewardson *op.cit*, p.126; *Appita*, vol.29(5) 1976, p.323.

97. The Minister for Industrial Development, *Mercury*, 24 Sept 1964.

98. *Mercury*, 4 May, 24 Sept, 2 Dec 1965; No.18 of 1966, *Florentine Valley Paper Industry Act* 1966. The area of the concession is now 162,248 ha. The government also assisted the company during 1967/68 when electricity had to be rationed because of a drought affecting generation of hydro-electricity. The government did this by agreeing to guarantee loans made to ANM for installing an electricity power station at Boyer - No.74 of 1967, *Loans Guarantees (Electricity Generating Plant) Act* 1967.

99. ANM's hold on the concession was strengthened in several ways:
- grazing leases could be cancelled;
- the Forestry Commission and the Lands Department could only let licences or leases for products or services quite unconnected with pulpwood with the consent of the company;
- company officers were given legal status at bushfires on the concession above that of the state's forestry officers;
- the obligation to cut, regenerate and protect the forest according to working plans approved by the Commission was

replaced by a provision that plans could be altered only by mutual agreement.

100. Chief Commissioner, A.H. Crane, estimated that 'old virgin forests' contained about 60% of sawlogs - 'Forestry Aspects of Utilisation'. This figure represents about the maximum attainable in Tasmania and a figure of 35-40% is thought by several Tasmanian foresters to be a more reasonable estimate for the Florentine concession.

101. *Jobson's Year Book of public companies*, 1956, 1966, 1973.

102. F.G. Davidson and B.R. Stewardson, *op.cit.*, pp.120-5; B.L. Johns, *op.cit.*

103. APPM, *Annual Report* 1946-1949, *Proc. Annual General Meetings*, 1946-1949.

104. No.67 of 1948, *Thomas Owen & Co. (Australia) Limited Act* 1948.

105. No.48 of 1961, *Wesley Vale Pulp and Paper Industry Act* 1961. The Bill passed the Legislative Council 'without a dissentient voice' and a proposal to refer it to a select committee to ensure it would not limit sawmillers was lost on the government's assurances that sawmillers' rights were well protected - *Mercury*, 30 Nov 1961. A minor amendment to water rights was made in 1967. The main provisions of this Act were as follows:
    1. The large concession of 512,000 hectares was divided into Pulpwood and Reserve Areas of 222,000 and 291,000 hectares respectively. The Reserve Area was to be made available by the Commission only when the company exceeded 75,000 cords a year from the Pulpwood area.
    2. Rights were granted for 80 years from the start of the Wesley Vale Mill. Rights could only be cancelled for non-compliance by the company after a judicial procedure.
    3. Wood from the Wesley Vale concession could only be used at Burnie in small amounts and only for 12 years.
    4. A working plan was clearly envisaged but was not mandatory.
    5. Extensive provisions were made for integrating pulpwood and sawlog logging. The Commission was empowered to direct products to be cut and delivered to roadside as well as to arbiter prices and road charges.
    6. The usual rights were granted to water, effluent discharge and the construction of works.

106. Reductions in production and dismissals occurred in 1961, 1964 and 1966 - *Mercury*, 12 Aug 1961, 10 Apr 1964, 11,16 June 1966. Tariff Board reports were issued in 1962 and 1968.

107. *Jobson's Year Book of public companies*, 1965, 1970.

108. *Advocate*, 18 Sept 1965.

109. APPM, *Proc. Annual General Meeting*, 1946.

110. APPM, *Annual Report*, 1946, 1947, 1948; H.B. Somerset, 'Eucalypt utilisation at Burnie'; *Australian Timber Journal*, vol.24(5), June 1958, p.117; APPM, *The Burnie Mills of APPM Ltd, General description of Associated Pulp and Paper Mills Limited.* CSR and APPM owned Hardboards Australia equally.

111. FC 5/5459, Solicitor-General to Conservator of Forests, 8 June 1943; Conservator of Forests to Minister of Forestry, 30 July 1943. A lesser issue concerned conflicts between rights of permit holders operating in the APPM concession and pre-existing rights of the Emu Bay Railway Company which the Forestry Commission considered were exercised wastefully. In 1948, Commission officers sought to have the conflicts clarified and cutting brought under their control. They wanted to achieve this by having a relevant section included in No.12 of 1948, *Crown Lands (Miscellaneous Provisions) Act*, 1948 which authorised the Commissioner of Crown Lands to lease to ANM 3 acres of Crown Land fronting the Derwent, near Government House. Again they were unsuccessful in having the legislation amended. FC 5/5195, Senior Forester to Chief Commissioner, 5 Mar 1948.

112. Mr. W.G.H. Meadows, Manager of APPM's Forestry and Timber Division, has claimed that Exclusive Forest Permits in the concession were 'legally doubtful' - 'History and development of the pulpwood concession system'.

113. B.B. Walker, 'Opting for wood production'.

114. Staff increased from 176 in 1955 to 257 in 1969. FC, *Annual Report*, 1955-1969.

115. Government of Tasmania, 'Submission by the Government of Tasmania to the Senate Standing Committee on Trade and Commerce Inquiry, Forestry and Forestry Based Industries', (Hobart, mimeo), 1979. This cites B.B. Walker, 'Accounts of Forestry Commission of Tasmania 1937-78' (as a draft manuscript, Forestry Commission, 1979). Two of the tables are reproduced in Appendix 1. Real prices were calculated from the Consumer Price Index for Hobart with a base 1966/67=100 - *Tasmanian Year Book*, 1979.

116. For examples of public reassurances that relations were harmonious see FC, *Annual Report* 1948, 1952, 1954; TTA, *Annual Report*, 1946, 1949, 1957, 1965. The change of relationship can be seen in relation to the Eastern States Timber Industry Stabilisation Conference (ESTIS, the forerunner of AUSTIS) that provided a forum for the discussion of policy between the timber industry and the government forest services in the eastern States. In 1945, the Conservator declined to attend ESTIS, claiming that policy was a government prerogative. He sent a

liaison officer to the 1946 conference (who was killed in an air crash on the way). FC 4/POL 1/2, Conservator for Forests to Secretary, TTO, 19 Jan 1945. In 1949, the Commission joined with the TTA in hosting a meeting of ESTIS in Hobart. FC, *Annual Report*, 1949.

NOTES TO CHAPTER 8

1. For examples of fundamental questioning see: S. Bowles and H. Gintis, 'The invisible fist: have capitalism and democracy reached a parting of the ways ?'. The crisis has also been seen in terms of state finances (O'Connor) and state legitimation (Habermas). In Australia, a number of studies appeared at the end of the 1970's analysing the transformation and proposing varied solutions - see for example: B. Hughes, *Exit full employment*; P. Sheehan, *Crisis in abundance*; A.C. Theophanous, *Australian democracy in crisis*; M. Walsh, *Poor little rich country*.

2. *Year Book Australia 1980*; P.Sheehan, *op.cit.*, pp.13-20; K. Windschuttle, *Unemployment*, pp.9-13.

3. Indecs Economics, *State of play*, p.62.

4. E.L. Wheelwright, 'The age of the transnational corporations'.

5. D. Marcus and C. Hamilton, 'Foreign investment: what is it ?'.

6. *Year Book Australia*, 1980. There were 1,864 bankruptcy proceedings with an average liability of $13,005 in 1973-74 and 4,417 proceedings with and average liability of $28,900 in 1978-79.

7. *Ibid.*

8. *Ibid*; Indecs Economics, *op cit*, p.23.

9. JPPP 1977/18, *State strategy plan: draft report*.

10. Sir Bede Callaghan, *Inquiry into the structure of industry and the employment situation in Tasmania*, p.103.

11. *Ibid*, pp.74-77, 95.

12. *Ibid*, p.35.

13. *Australian Forest Industries Journal*, vol.39(1), Feb 1973, pp.10-32.

14. Interviews: Mr. E.D. Shields, Tasmanian Forest Manager of APPM,

and Mr. G. Harrison, General Manager, Northern Woodchips Pty Ltd, both at Long Reach on 1 Nov 1979.

15. *Examiner*, 8 Jan 1969.

16. Convenient tabulations of official statistics for 1977-78 are provided in a report of the Australian Forest Industries Advisory Council, *Australia's Forest Products Industries.*

17. *Ibid*, p.132.

18. The environmental movement's case was put forcefully by R. and V. Routley, *The fight for the forests.* L.T. Carron, 'Forestry in the Australian Environment', places the environmental debate in a historic context.

19. TTA, *Annual Report*, 1967; *Australian Timber Journal*, vol.34(3), April 1968.

20. See Chapter 7 for an account of Tasmanian Board Mills. The original members of TPFH were:
    Risby Bros Pty Ltd
    W.A. McKay Pty Ltd
    Kilndried Timber Industries Ltd
    B.G. Clennett Pty Ltd
    Kemp and Denning Ltd
    Tasmanian Board Mills Ltd
    Chesterman and Co Pty Ltd
    IXL Timber Pty Ltd
    Hall Bros
    S.T. & Y.C. Brown
    R.J. Hanlon
    Fehlberg Timbers Pty Ltd
    Crisp and Gunn Co-op Ltd.

21. R. Jones, *The vanishing forests?*, pp.4-6; *Australian Timber Journal*, Vol.38(1), Feb 1971, pp.11-29; *Tasmanian Year Book*, 1971, 1975.

22. No.71 of 1968, *Pulpwood Products Industry Act (Eastern and Central Tasmania) Act*, 1968.

23. *Tasmanian Government Gazette*, 30 Nov 1972, *Government Notice* 479, 'Working Plan for the forested Crown Lands in Eastern and Central Tasmania'.

24. T.M. Cunningham, 'Allocation of Crown lands for timber production in Tasmania'; No.24 of 1971, *Pulpwood Products Industry Act (Eastern and Central Tasmania) Act*, 1971, was passed to provide compensation for holders of grazing leases not renewed by the Commission.

25. *Advocate*, 20 Nov 1968; *Mercury*, 21, 22, 23 Nov 1968. An

attempt in the Legislative Council to have the Bill referred to a Select Committee was lost, *Mercury*, 5 Dec 1968.

26. Messrs. C.A. Risby, W.A. McKay and B.G. Clennett. *Australian Timber Journal*, vol.34(11), Dec 1968, pp.70-71; TPFH, *Annual Report*, various years.

27. *Australian Timber Journal*, vol.34(11), Dec 1968, pp.70-71.

28. Ibid, vol.37(6), July 1971, p.15; *Australian Forest Industries Journal*, vol.39(12), Jan 1973; TPFH, *Annual Report*, 1975.

29. M. Lawriwsky, *Ownership and Control of Australian Corporations*, gives ownership details for 1974-75. 76.5% of Henry Jones (IXL) Ltd was owned by Food Cannery Industries Pty Ltd of which 49% was owned by a subsidiary of the Commercial Bank and 20% by National Mutual Life Association.

30. TPFH, *Annual Report*, 1975-78; *Australian Timber Journal*, vol.37(6), July 1971, p.15; vol.39(11), Dec 1973, p.57.

31. TPFH, *Annual Report*, 1975-78.

32. Interview with Mr. N. Vance, Logging Manager of TPFH, Triabunna, 2 Nov 1979.

33. Interview with Mr. J. Waddington, General Manager of Kilndried Timber Industries Ltd, Launceston, 17 May 1979.

34. FC, *Financial Analysis of Forestry Commission Operations in the TPFH Concession* (1978). An earlier estimate was made by the Working Group set up by the Australian Ministers for the Environment and Conservation and Agriculture, *Economic and environmental aspects of the export hardwood woodchip industry* (1975), vol.1, pp.64-66. This group of Commonwealth officials used different cost and revenue figures in a less detailed analysis and considered that '... the Tasmanian Forestry Commission should not make a loss out of the East Coast project ...'. The later Tasmanian study is taken to be more accurate.

35. *Australian Financial Review*, 4 April 1968; *Mercury*, 14 April 1968. The first elected directors were: F. Bardenhagen of Bardenhagen Enterprises, C. Grey of Grey Bros Sawmills at Smithton, M. Alstergren from the network of mainland timber merchants, E.H. Fenton from Kauri Timber company, and W.A. Newman. Kauri was in a weak financial position and sawmills in the north west, like Grey Bros, were producers only - unlike the more prosperous sawmiller/merchants in the southern group. The mainland timber merchants had a foot in both camps.

36. *Advocate*, 9 May 1968; *Mercury*, 21 June 1968; *Examiner*, 22, 29 June 1968.

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37. *Mercury*, 1,4 Dec 1969; *Australian Financial Review*, 5,8 Jan 1970.

38. *Australian Timber Journal*, vol.36(1), Feb 1970. Plantation Management was the group's wood and forestry subsidiary which sold bonds in various plantation schemes to the public and had looked into joint ventures with Japanese companies in New Guinea.

39. *Mercury*, 19 May 1970.

40. Northern Woodchips attempted to overcome their shortage of capital and dodge the Commonwealth's price ruling by offering one-third of the equity to a group of six Japanese companies at a price of $12.50 per tonne against which they hoped the Japanese would be able to offset $1.50 in profits. *Australian Financial Review*, 24 Mar 1970; *Mercury*, 19 May 1970; *Examiner*, 30 Nov 1970; *Australian Financial Review*, 30 Nov 1970.

41. Not only did the Savoy group collapse financially but its leading entrepreneur, John Rogerson Hall, was charged with the forgery of $910,000 worth of shares, *Age*, 21 May 1970.

42. *Mercury*, 5 Mar 1971. Northern Woodchips took out a writ against 3 sawmillers and former directors who became directors of the new group. The writ, to prevent them disclosing confidential information, was subsequently withdrawn.

43. *Australian Financial Reveiw*, 14 Feb 1972. Lawriwsky, *op cit*, details that in 1974, H.C. Sleigh was owned by Caltex - 36%, the Sleigh family - 7%, Australian insurance companies and other institutions - 11%. Lawriwsky classifies Sleigh as controlled by a foreign company.

44. *Australian Timber Journal*, vol.38(1), Feb 1971; vol.38 (Congress issue), 1972; Working Group set up by the Australian Ministers for the Environment and Conservation and Agriculture, *op cit*, vol.1, p.75.

45. *Australian Forest Industries Journal*, vol.42(11), Dec 1976; Northern Woodchips Ltd, *History and description of plant*.

46. Northern Woodchips Ltd, *Annual Report*, 1970-1977.

47. Interview with Mr. G. Harrison, General Manager, Northern Woodchips, Long Reach, 1 Nov 1979.

48. *Examiner*, 13 Aug 1980. Both approvals were timed to expire at the same time as the original licence in 1986.

49. *Jobson's Year Book*, 1964, 1966, 1968, 1972; *Australian Financial Review*, 26 Sept, 8 Oct 1968.

Notes to Chapter 8

50. *Mercury*, 5, 12 June 1968.

51. *Australian Forest Industries Journal*, vol.38(8), Sept 1972, pp.52-61; vol.39(1), Feb 1973, pp.10-32.

52. Working Group set up by the Australian Ministers for the Environment and Conservation and Agriculture, *op cit*, p.24.

53. FC, *The sawmilling industry in the Wesley Vale concession area.*

54. Statements advocating integrated logging had been made by the Commission since the 1950's, particularly in relation to the Port Huon concession - see for example: A.H. Crane, 'Forestry aspects of utilisation'; and J.R. Quick, 'Impact of expanding pulpwood industries on hardwood forestry'. For the APPM position see: W.G.H. Meadows, 'Constructive look at Tasmanian forest products industry' and 'Forest integration for better or for worse?'.

55. 8 checks made by the Forestry Commission in 1977 found that less than 0.5% of the wood taken to APPM's woodchip mill could have been classified as sawlogs - FC, *Five year plan of operations for Wesley Vale area.*

56. *Ibid.*

57. *Ibid.*

58. For period 1971/72 to 1979/80 - FC, *Annual Report*, various years.

59. J.R. Quick, 'Private forestry in Tasmania : the point of view of the state'.

60. The United Forest Products Pty Ltd group, which had considered exporting woodchips from Devonport, amalgamated in 1974 with Consolidated Forests (Central) Pty Ltd to form Consolidated Forest Owners Pty Ltd aimed at securing higher returns from integrated logging operations. Generally the Tasmanian Farmers', Stockowners' and Orchardists' Association spoke for landowners.

61. Estimate by Tasmanian Farmers Association - later accepted in government enquiries - *Examiner*, 31 Dec 1970,

Notes to Chapter 8

62. Land use surveys of cut-over private forest, 1975

Probable future land use	Proportion of area(%)
Agriculture and pastoral development	41
Fully productive forest	27
Forest of some value for wood production	23
Forest of doubtful value for wood production	9
Total	100

JPPP 1977/25, Board of Inquiry, *Private forestry development in Tasmania.*

63. JPPP 1972/70, Select Committee of the Legislative Council, *Forest Regeneration.*

64. R. Jones, *op cit.*

65. JPPP 1977/25, Board of Inquiry, *Private forestry development in Tasmania.*

66. No.117 of 1977, *Forestry Act.* A further Act, No.18 of 1981, *Forestry Amendment Act,* enabled the Forestry Commission to give advice and assistance for other than commercial purposes.

67. FC, *Annual Report,* 1979/80. Four incentive schemes were in operation:
   i) Pine Plantation Development Loan (loans of up to 80% of cost of establishing plantations over 15 ha).
   ii) Pine Plantation Nursery Stock (seedlings sold at reduced rates for small plantations).
   iii) Native Forest Restoration Grant (all the costs of regenerating areas cut over for pulpwood and sawlogs before 1979).
   iv) Eucalypt & Native Species Plantation Grant (grant of 50% of the costs of planting).

68. The formation of the Tasmanian inquiry in April 1978 and its pointed terms of reference even alarmed industrialists in other States who feared that inquiries and rate increases might follow elsewhere. *Australian Forest Industries Journal,* vol.44(5), June 1978, pp.60-61. The inquiry was stopped in July 1978.

69. J.R. Quick, 'Private forestry in Tasmania'.

70. APPM, *Associated Tree Farmers;* Mr. E.D. Shields, Tasmanian Forest Manager of APPM, talk to Australian Forest Development Institute field tour, 29 Oct 1979. Royalty rates for private property in 1979 were:

Notes to Chapter 8

Distance from mill (km)	Base Rate ($ per tonne)	Regeneration Incentive ($ per tonne)
Under 20	1.20	0.30
20 - 30	1.00	0.30
30 - 50	0.85	0.30
Over 50	0.70	0.30

71. Northern Woodchips, *Environmental and Reforestation Action*; Interview with Mr. G. Harrison, General Manager of Northern Woodchips, 1 Nov 1979. Royalty rates were:

Distance from mill (km)	Committed to Sell to Company ($ per tonne)	Uncommitted ($ per tonne)
Under 32	1.40	1.30
33 - 49	1.20	1.10
50 - 80	1.00	0.90
Over 80	0.80	0.70

72. APM, *Annual Reports*, and 'A brief history of paper making in Australia'.

73. A trial shipment of pelleted pulp was sent to Japan in 1968, *Mercury*, 25 May 1968.

74. FC, *Annual Report*. 186,000 tonnes were consumed in 1973-74, compared to an average 1974-75 to 1979-80 of 152,000 tonnes.

75. FC, *Revision of Working Plan for the State Forests in Southern Tasmania*, which reproduced the original 1954 Working Plan incorporating amendments approved by the Governor-in-Council on 19 Dec 1974.

76. *Appita*, vol.29(5), March 1976, pp.321-327.

77. Net profit fell from $2.2 - 2.5 million in 1972-3, to $1.3 - 1.7 million in 1974-76.

78. ANM, *Working Plan for concession area of Australian Newsprint Mills Limited in the Derwent Valley*.

79. 'The ANM thermo-merchanical plant', *Appita*, vol.33(1), July 1979, pp.19-21. The 35,000 tonnes a year of new softwood pulp was designed to replace 16,000 tonnes of imported kraft pulp and 19,000 tonnes of alkaline groundwood pulp - *Australian Forest Industries Journal*, vol.43(7), Aug 1977.

80. *Australian Financial Review*, 15 Nov 1978, 15 Mar 1979. With only two shareholders, ANM was delisted in 1979 - *Jobson's Year Book of public companies*, 1980-81.

81. *Australian Forest Industries Journal*, vol.44(7), Aug 1978.

82. APPM, *Annual Report*, various years. The net profit after tax

was 6.1% in 1971-72 and 6.2% in 1975-76 compared with 10.9-23.6% in other years of the 1970's - *Jobson's Year Book of public companies*, various years.

83. The main events were:
    1972 Request for temporary protection. Refused following agreement by major exporters to restrict Australian sales.
    1973 Across the board tariff reduction of 25% while application for paper tariffs being heard.
    1974 Industries Assistance Commission recommend 20% on printing and writing paper.
    1975 Request for temporary duty of 40% and import embargo for 9 months refused.
    1976 Request for temporary assistance. Tariff quote granted but sit at level that gave little protection. IAC recommended 20%.

84. *Australian Financial Review*, 8 April, 25 Aug 1975; *Advocate*, 30 Aug 1975.

85. APPM, *Annual Report*, 1971, 1979. The Tasmanian figures have been estimated by deducting estimated production in other areas from the published corporation totals.

86. *Appita*, vol.33(2), Sept 1979, pp.88-91.

87. *Australian Forest Industries Journal*, vol.43(2), Feb 1977. In 1972, APPM took a 50% share in developing a limestone quarry and kilns and Mole Creek. A clay pit and processing plant were constructed at Tonganah in north eastern Tasmania in 1975 - APPM, *General description of Associated Pulp and Paper Mills Limited*, publicity brochure, 1975. APPM took over the Pacific Islands Corporation, sawmilling in New Guinea, in 1975 but sold it in 1981 - *Australian Forest Industries Journal*, vol.41(6), July 1975; vol.41(7), Aug 1975.

88. ABS, *Sawmilling, woodchipping, etc. statistics - Tasmania.*

89. *Australian Timber Journal*, vol.35(8), Sept 1969, gives details of chipping equipment installed at Hardwoods mill at Smithton to supply APPM. *Australian Timber Journal*, vol.37(9), Sept 1971 and vol.37(10), Nov 1971, give details of chipping equipment installed in Crisp & Gunn's and Risby's sawmills to supply TPFH.

90. *Timber Supply Review*, various years.

91. ABS, *Census of manufacturing establishments*, various years.

92. *Australian Timber Journal*, vol.37(3), April 1971; vol.39(5), June 1973.

Notes to Chapter 8

93. During the Boise Cascade era, the Chatlee mill cut logs 'through and through' rather than quarter-sawing which is needed to obtain the best recovery of high quality grades. Because of KTC's precarious financial position then, the company is reported to have continually cut selling prices to break-even costs, much to the dismay of the TTA - interview with Mr. W. Leitch, former General Manager of Henry Jones, IXL Timbers, Hobart 15 Nov 1979.

94. *Australian Forest Industries Journal*, vol.39(2), March 1973; vol.39(4), May 1973.

95. *Australian Forest Industries Journal*, vol.39(9), Oct 1973, p.63, vol.40(5), June 1974, p.96, vol.40(6), Nov 1974, p.54, vol.43(7), Aug 1977, p.66, vol.43(11), Dec 1977, pp.56-57, vol.45(5), May 1979, pp.8-32; *World Wood*, Oct 1976; *Examiner*, 26 Mar 1977.

96. *Jobson's Year Book of Public Companies*, 1977/78. Timbersales Ltd was a Melbourne timber agent formed in 1970 from a merger of the Victorian timber departments of the large importers and agents, Parbury Henty & Co Pty Ltd, with Wm. Haughton & Co Pty Ltd. Parbury Henty can trace its origins back to the early days of Tasmania. The produce and timber business that was begun in Launceston in 1831 by James Henty was later moved to Melbourne and merged in 1891 with the Sydney firm of F. Parbury & Co. Wm. Haughton was founded in Victoria in 1870 and operated as wool, skin, hide, and general merchants. They were incorporated as a public company in 1939 and diversified and expanded by buying sawmills in Victoria. Parbury Henty had remained basically as a family company, but Wm. Haughton - a much larger company - was controlled by a board reflecting a wide range of financial and some manufacturing capital.

97. Parliament of Tasmania, House of Assembly, *Debates*, 2nd. session, 1980, no.8, p.1518, Question to Minister for Forests. The state responded to the objections of French and the Forestry Commission with the devious device of having Tasmanian Softwoods pay the general rate of royalty to the Forestry Commission and then giving them a subsidy of $4 per cubic metre until 1980, which amounted to $180,567.

98. The feasibility study was announced in 1977 - *Australian Forest Industries Journal*, vol.43(5), June 1977. By 1978, TPFH had an issued capital of only $5.06 million and had accumulated only $1.28 million in reserves and unappropriated profits - TPFH, *Annual Report*, 1977-78.

99. Kilndried Timber Industries Ltd was the successor to Kilndried Hardwoods described in Chapters 6 and 7.

100. *Australian Financial Review*, 5,6,10 Sept, 9,15,16 Oct 1979.

Notes to Chapter 8

101. In 1978, Risby Bros had 1 sawmill at Austins Ferry producing 12,000 m^3 a year; in 1981, they had 3 sawmills and were producing 30,000 m^3 a year - *Australian forest industries directory*, 1978, 1981. Their expansion was achieved by taking over Crisp & Gunn Ltd and the sawmilling business of Henry Jones (IXL) Ltd.

102. TBM made a series of operating losses in the 1970's and sold its 12,500 hectares of forest land to Northern Woodchips (Sleigh) in 1978. In 1980, Sleigh bought the remainder for approximately $6 million - *Australian*, 12 May 1980.

103. FC, *Annual Report*, 1979/80; ABS, *Sawmilling, woodchipping, etc. statistics - Tasmania.*

104. Estimates of the allocations of sawlogs from Crown forests were subjectively adjusted for reductions in quota and changes in ownership. Estimates of sawn timber production were based on data in *Australian forest industries directory*, 1978, 1981.

105. Areas of Crown forest include rain forest type but exclude non-forest within the concession boundaries. Government of Tasmania, *Submission to Senate Standing Committee on Trade and Commerce Inquiry: Forestry and Forest Based Industries.*

106. APM extended its joint sales agreement with New Zealand Forest Products Ltd and set up a joint sales company to sell paper in South-East Asian markets. APM also investigated making paper in Malaysia and the export of pulp from Australia. APM, *Annual report*, 1981.

107 A major conflict between log truck owner/drivers and TPFH flared up in 1979. The owner/drivers combined to form the East Coast Log Hauliers Association and blockaded the TPFH mill seeking a 20% increase in rates. The Acting Premier acted as mediator in settling the dispute on terms that gave the owner/drivers a 4% increase in rates. *Examiner*, 16 May 1979; *Mercury*, 17-18 May 1979.

108. Government of Tasmania, *Submission to the Senate Standing Committee, op. cit.*

NOTES TO CHAPTER 9

1. Anthony Brewer, *Marxist theories of imperialism, pp.181,272.*

2. *Ibid*, Chapters 8,11.

3. See Chapter 3. James Fenton, *Bush life in Tasmania*, describes his own exploits selling timber in Melbourne in the 1850's and

gives the impression of a free market operating on the Melbourne wharves. He also describes the Launceston entrepreneur, Thomas Drew, as having a monopoly on the Adelaide trade. J.S. Lee, sawmillers of Smithton (later taken over by the Kauri Timber Company - see chapter 8), even operated their own timber yard in Melbourne. Thus there is no indication of any subordination of Tasmanian producers in the mainland markets at this time.

4. A.G. Frank gives the example of Brazilian peasants who enter *five* structures of production during a year; i) owner of house and land, ii) sharecropper on anothers land, iii) tenant on a third's land, iv) wage worker during harvest time on one of these lands, and v) independent trader of his own home-produced commodities! *Capitalism and underdevelopment in Latin America*, p.272.

5. Government of Tasmania, *Submission by the Government of Tasmania to the Senate Standing Committee on Trade and Commerce Inquiry, Forestry and Forestry Based Industries.*

6. Comte, the most positivist of sociology's founding parents, predicted that there would be no more wars in the centre of industrial rationalism - Europe!

7. E.J. Hobsbawm, 'Looking forward: history and the future'.

8. Krishan Kumar, *Prophecy and progress*, Chapter 6, reviews the post-industrial theorists.

9. Robert Catley and Bruce McFarlane, *Australian capitalism in boom and depression*, p.1.

10. *Ibid*, Chapter 8.

11. Andrew C. Theophanous, *Australian democracy in crisis*, Epilogue.

12. APPM joined a consortium of six Japanese companies to study the feasibility of building a pulpmill as a joint venture. *Australian Financial Review*, 3 Oct 1980.

13. See chapter 1.

14. Sir Bede Callaghan, *Inquiry into the structure of industry and the employment situation in Tasmania*, p.94 *et passim.*

FORESTRY COMMISSION

NATIVE FOREST OPERATIONS ACCOUNTS BY 5 YEAR PERIODS (ORIGINAL DOLLARS)

TABLE 1

	1936/7 to 1952/3	1953/4 to 1957/8	1958/9 to 1962/3	1963/4 to 1967/8	1968/9 to 1972/3	1973/4 to 1977/8	Total for 25 Year Period
	('000'$)	('000'$)	('000'$)	('000'$)	('000'$)	('000'$)	('000'$)
Revenue							
Sawlog		+	+	+	7 007	10 836	
Pulpwood and Other		+	+	+	1 774	5 544	
Road Tolls		+	+	+	+	2 910	
Net Conversion Revenue		-	81(*)	269(*)	358	384	
Total Royalty		3 524	4 862	6 904	9 139	19 674	
Permits, Leases & Miscellaneous Fees		69	78	95	106	176	
House Rents (half totals)		13	25	36	60	96	
Total Receipts		3 606	4 966	7 036	9 305	19 947	
+ Figures not available							
* Includes plantation returns prior to 1967							
Expenditure on Current Operations							
Overheads, Salaries and Expenses		715	901	1 282	1 823	4 842	9 563
Maintenace of Buildings		87	61+	60	119	352	680
Maintenace of Roads		591	673	462+	713	2 589	5 028
Fire Protection		382	1 027+	798	828	1 468	4 503
Regeneration and Protection		1	116	565	935	3 570	5 187
Purchase and Collection of Seed		-	-	35	115	638	787
Mapping and Forest Surveys)		420	676	892	1 490	4 529	8 007
Management and Planning)							
Marketing		393	539	667	1 317	3 820	6 737
Silviculture, Research & Investigations		84	176	400	364	1 148	2 172
Noxious Weeds & Vermin Destruction		-	-	5	3	6	14
Sub-Total		2 673	4 169	5 167	7 706	22 962	43 264
Interest on Loan Funds Employed in :							
Land	14	25	44	67	97	153	
Buildings	6	17	35	61	118	303	
Roads	89	312	832	1 767	3 389	7 124	
Other	190	225	318	431	611	1 009	
Sub-Total	300	579	1 229	2 326	4 216	8 588	
Total Costs		3 252	5 398	7 492	11 922	31 550	
Profit (loss) transferred to balance sheet		354	(432)	(456)	(2 618)	(11 603)	

FORESTRY COMMISSION

FUND STATEMENTS FOR 5 YEAR PERIODS 1953/4 TO 1977/8 (ORIGINAL DOLLARS)

TABLE 2

	1936/7 to 1952/3	1953/4 to 1957/8	1958/9 to 1962/3	1963/4 to 1967/8	1968/9 to 1972/3	1973/4 to 1977/8	Total
	('000 $)	('000 $)	('000 $)	('000 $)	('000 $)	('000 $)	('000 $)
Source of Fund							
Grants for Unemployment Relief by State Government	-	-	-	-	-	950	950
Grants for Unemployment Relief by Commonwealth Government	-	-	259	22	278	937	1 495
Loan by State Government Expended	3 932	2 493	3 521	7 340	9 597	32 215	59 097
Loan Advanced by Commonwealth Government under Softwood Agreement Act	-	-	-	520	2 743	4 210	7 474
Interest Paid by State Treasury (Notional)	587	1 070	2 154	4 205	8 090	19 105	35 210
Interest Paid by Commonwealth Treasury (Notional)	-	-	-	-	446	1 755	2 201
Profit in Native Forest Operations Account	-	354	-	-	-	-	354
Receipts in Softwood Plantation Development Accounts	-	75	130	333	406	2 264	3 208
Sales of Capital Assets	3	- 14	12	203	68	88	360
Total	4 522	3 978	6 075	12 623	21 627	61 525	110 350
Application of Funds							
Loss in Native Forest Operations Account	300	-	432	456	2 618	11 603	15 409
Development of Native Forest Estate							
Purchase of Land	56	59	26	26	12	58	236
Buildings	71	30	69	96	138	809	1 213
Major Roads, Engineering & Plant	901	1 801	2 504	3 333	3 850	8 047	20 435
Other	966	-	-	-	-	-	966
Sub-Total	1 994	1 889	2 599	3 455	4 000	8 914	22 850
Development of Softwood Plantations :							
Establishment, Works, Maintenance, etc.	1 083	1 002	1 693	4 896	7 265	17 851	33 790
Purchase of Land	250	7	3	13	29	165	466
Buildings	71	30	69	96	138	809	1 213
Interest on State Loan Funds Employed	227	353	688	1 479	3 236	9 260	15 242
Interest on Commonwealth Loan Funds Employed	-	-	-	-	446	1 755	2 201
Sub-Total	1 631	1 391	2 453	6 483	11 115	29 840	52 913
Scenic Reserves							
In Native Forests	-	-	-	-	15	279	294
In Plantations	-	-	-	-	8	90	98
Interest Paid by Forestry Commission on State Loans	-	-	-	542	2 007	4 228	6 777
Repayment of State Loan (increase)	3	(14)	12	290	68	88	447
Plant and Equipment							
Direct Expenditure	533	244	191	310	265	2 109	3 653
Interest on Funds Employed	60	139	237	401	638	1 257	2 731
Carried Forward							
Net increase in unexpended revenue		329	152	686	893	3 090	5 168
Unexpended Commonwealth Loan		-	-	-	-	9	9
Total	4 522	3 978	6 075	12 623	21 627	61 525	110 350

Source: Government of Tasmania, *Submission to Senate Standing Committee of Trade and Commerce Inquiry: Forestry and Forest Based Industries.*

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Australia

1938		No.64	*Newsprinting Paper Bounty Act*

Tasmania

1858	21 Vict.	No.33	*Waste Lands Act*
1881	45 Vict.	No.5	*Waste Lands Amendment Act*
1885	49 Vict.	No.36	*State Forests Act*
1890	54 Vict.	No.8	*Crown Lands Act*
1895	59 Vict.	No.31	*Crown Lands Amendment Act*
1898	62 Vict.	No.38	*Crown Lands Amendment Act*
1900	64 Vict.	No.21	*The Crown Lands Amendment Act*

1901	1 Ed.VII (Private)		*The Geeveston Tramways and Timber Leases Act*
1902	2 Ed.VII (Private)		*Tasmanian Timber Corporation Act*
1911	2 Geo.V	No.64	*Crown Land Act*
1920	11 Geo.V	No.60	*Forestry Act*
1924	15 Geo.V	No.21	*Wood-Pulp and Paper Industry Encouragement Act*
1926	16 Geo.V	No.82	*Wood-Pulp and Paper Industry Encouragement Act*
1926	16 Geo.V	No.13.	*Kermandie Wood-Pulp and Paper Industry Act*
1927	18 Geo.V	No.95	*Forestry Act*
1927	18 Geo.V	No.99	*Timber Industries Encouragement Act*
1929	20 Geo.V	No.34	*Forestry Act*
1930	21 Geo.V	No.55	*Forestry Act*
1932	23 Geo.V	No.10	*Florentine Valley Wood-Pulp and Paper Industry Act*
1935	26 Geo.V	No.27	*Florentine Valley Paper Industry Act*
1936	1 Ed.VIII	No.35	*Associated Pulp and Paper Mills Act*
1937	1&2 Geo.VI	No.79	*Florentine Valley Paper Industry Act*
1938	2 Geo.VI	No.47	*Forestry Act*
1938	2 Geo.VI	No.32	*Homes (Burnie Paper Mills) Act*
1941	5 Geo.VI	No.58	*Forestry Act*
1945	10 Geo.VI	No.42.	*Forestry Act*
1946	9&10 Geo.VI	No.64	*Tasmanian Paper and Timber Mills Act*
1947	11 Geo. VI	No.49	*Tasmanian Paper and Timber Mills Act*
1948		No.12	*Crown Lands (Miscellaneous Provisions) Act*
1948		No.67	*Thomas Owen & Co. (Australia) Limited Act*

1954	No.49	*Forestry Act*
1957	No.23	*Forestry Act*
1959	No.69	*Forestry Act*
1959	No.70	*Huon Valley Pulp and Paper Industry Act*
1961	No.48	*Wesley Vale Pulp and Paper Industry Act*
1966	No.18	*Florentine Valley Paper Industry Act*
1967	No.74	*Loans Guarantees (Electricity Generating Plant) Act*
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GLOSSARY

Air-drying. Drying timber by more or less regulated exposure to the atmosphere in order to season it.

Articulation. A long-lasting linkage between two or more co-existing modes, sub-modes or structures of production.

Assessment. A survey of a forest made in order to locate timber and estimate its quantity by species, size, products, quality or other characteristics.

Billets. Pieces of split or sawn wood - typically about 1.2 m long by no more than 300 mm square - small enough to move by hand and fit into grinding or chipping machines.

Capital. The value that is increased by the accumulation of surplus-value - 'dead labour'.

Capitals. Divisions of capital into identifiable fractions - e.g. merchant, banking industrial capitals.

Chips. Small pieces of wood cut by chipping machines - typically 30-40 mm long by 20-30 mm broad and 10 mm or so thick - used for cooking into wood pulp.

Clear felling. Removal of the entire stand at one cut - as opposed to removing only selected stems.

Core. The handful of developed industrial metropolitan economies in strong states.

Dressed timber. Timber planed on one or more surfaces, usually four. Includes partly moulded timbers such as tongued and grooved flooring or weatherboards. Produced from rough sawn dried timber.

Green timber. Freshly cut timber with a high moisture content.

Hardboard. A sheet or board made from wood that has been defibrated, felted, and consolidated by the application of heat and pressure.

Hegemony. The leadership or predominant influence exercised by one state over others, or by one class over others.

Infrastructure. The roads, bridges, railways, jetties, docks, power stations etc. needed to support production.

Integrated logging. Logging a stand to produce two or more products jointly, e.g. sawlogs and plylogs, or sawlogs and pulpwood.

Hewn timber. Timber finished by broad axe or adze; the ends are generally sawn. Commonly used for piles, beams and railway sleepers.

Kiln-drying. Drying timber with heated air circulated in a closed chamber.

Means of production. The sum of the resources used for production (land, raw materials, stock etc.), the instruments of production (tools, machines, factories, etc.) and the working capital employed.

Mode of production. The totality of the material and social processes of production.

Old growth. A mature or overmature stand. Old growth stands in Tasmania generally originated prior to the European invasion (1803). Many have been partially cut over and consist of old trees intermingled with patches of regrowth.

Paling. A narrow board. Commonly 1.5-1.8 metres long, 125-150 mm wide and 25-50 mm thick. Used for cladding the walls of a hut or house, and for fencing.

Paradigm. A set of beliefs, values and techiques shared by the members of a particular community of scientists (including social scientists).

Particle board. A sheet or board made from fragments of wood consolidated by the application of heat and pressure with binding materials. In Tasmania, made mostly from flakes of wood.

Periphery. The many underdeveloped satellite economies whose development is hindered and distorted by their relationship with the core.

Piles. Long wooden poles -often squared - driven into the sea bed as part of wharf construction, or into the ground to provide foundations for a structure.

Regrowth. An immature stand regenerated after cutting, fire etc. Commonly stands under 60 - 100 years of age.

Relations of production. The relationship between the class of direct producers (workers) and the class that owns or controls the means of production.

Rough sawn timber. Timber as it comes off the saw - undressed.

Scantling. Timber sawn to cross sections of about 150x100 mm; generally used for house frames.

Shingle. A piece of wood split (or sometimes sawn) so that one end is thinner than the other. Commonly about 600 mm long by 100 mm broad. Used for covering buildings and especially roofing.

Shook. A set of boards for making a wooden box.

Snig. To haul logs along the ground, sometimes with the front end lifted.

Stand. An aggregation of trees occupying a specific area and sufficiently uniform as to be distinguishable in the forest.

Structure of production. A division of production within a specific concrete society that has distinct physical and social processes of production.

Sub-mode of production. A variant of a mode of production defined at a lower level of abstraction and with greater historical specificity than a mode of production.

Superstructure. The social, political, legal and cultural institutions of society, particularly those of the state.

Surplus. That part of production which is neither consumed by the direct producers (either directly or via exchanges), nor applied to replenishing the means of production.

Surplus-value. The monetary form taken by the surplus. Under capitalism surplus-value is produced by the wage-labourers and appropriated by the capitalists.

Thinning. Cutting a selection of trees from an immature stand to improve its growth, hygiene, total yield, etc.

Transnational corporations. Large companies whose ownership is based in one country, but whose operations and labour force are distributed among several.

COMMON AND BOTANICAL NAMES OF TASMANIAN TREES

Common name	Botanical name
Blackwood	*Acacia melanoxylon*
Blue Gum	*Eucalyptus globulus*
Huon Pine	*Dacrydium franklinii*
Ironbark	*Eucalyptus sieberi*
Myrtle Beech	*Nothofagus cunninghamii*
Pines (royalty rates notices)	
" Celery Top Pine	*Phyllocladus asplenifolius*
" Huon Pine	*Dacrydium franklinii*
" King Billy Pine	*Atherotaxus selaginoides*
Radiata Pine	*Pinus radiata*
Stringybark	*Eucalyptus obliqua*
Swamp Gum	*Eucalyptus regnans*
Tasmanian Oak (timber only)	*Eucalyptus delegatensis*
" " " "	*Eucalyptus obliqua*
" " " "	*Eucalyptus regnans*

CONVERSION FACTORS

Measurement	Imperial unit		Metric equivalent	
Dimensions	1	mile	1.609	kilometre (km)
	1	foot (ft)	0.305	metre (m)
	1	inch (in)	25.40	millimetre (mm)
Land area	1	acre	0.405	hectare (ha)
Log volume	100	super foot hoppus(s.ft)	0.301	cubic metre(m^3)
Money	1	pound	1.00	dollar ($)
	1	shilling (s)	$0.10	
	1	penny (d)	$0.0083	
Plywood	1	million square feet ($^3/_{16}$ inch basis)	442.45	cubic metre(m^3)
Power	1	horsepower	0.746	kilowatt (kW)
Pulpwood	1	cord *	3.625	m^3 before 1954
			2.97	m^3 after 1954
Pulpwood chips	1	bone dry unit or 2,400 lbs	2.00	tonne approx.or
			2.2	m^3 approx. of green wood
Sawn timber	100	super feet true (s.ft)	0.236	cubic metre(m^3)
Weight	1	ton	1.015	tonne
	1	pound (lb)	0.453	kilogramme (kg)

* The cord is normally defined as a *stack* of wood measuring 4x4x8 feet (128 cubic feet). In Tasmanian legislation prior to 1954, the cord was taken to be 128 cubic feet of *solid wood*. The *Forestry Act, 1954*, redefined the cord as a unit of *stacked* wood. Since 1974, only metric measures of *solid* contents have been used in Tasmania.